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Numbering System for All Yarns .....April 30
Cellulose Acetate for Insulation .....May 14

COTTON

Spinning-Room Reports....April 16
Warping for Satisfactory Slashing and Weaving....May 14
Marquisette Weaves .....May 21

WOOL

New Fabrics .....April 16
Blending Calculations .....April 30
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SILK

Winder Differential Motion..April 16
Loom Shipping and Driving.May 14
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RAYON

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ENGINEERING

Arc Welding .....April 2
Mill Lighting .....April 23
Waste Heat in Water.....May 7

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Textile World

ESTABLISHED 1868

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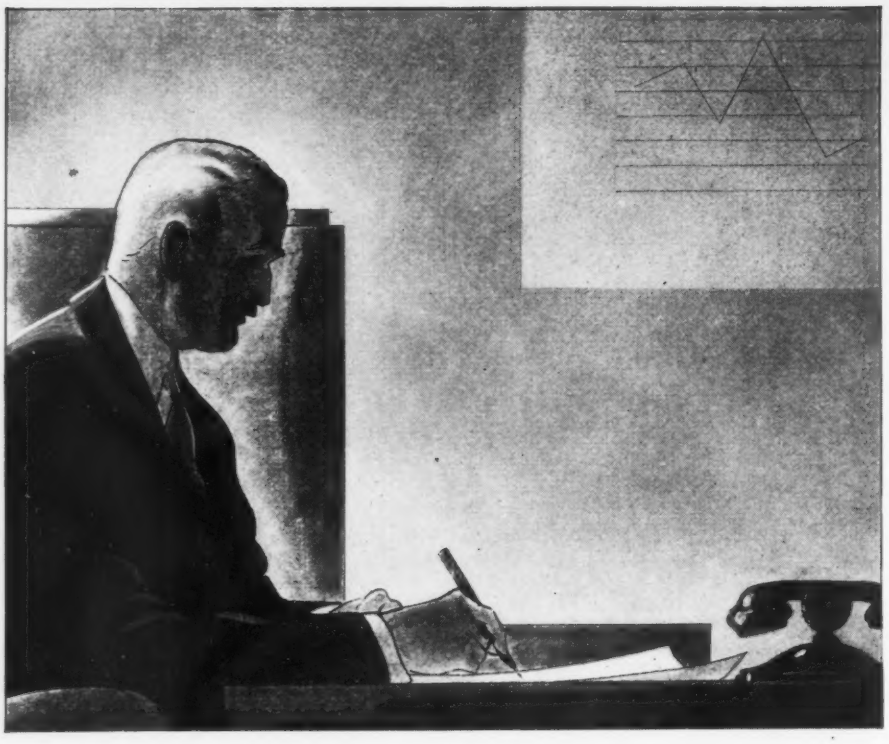

PLANNING FOR *Profits* IN 1932

Clear thinking men are pondering the course to profitable business. Skill in buying as well as in selling is now in demand as never before. ◆ Executives are most carefully scrutinizing their sources of supply. They realize the great importance of these in offering their trade consistently high quality, in giving value, in maintaining the service that holds old customers and gains new. ◆ An alliance with Industrial assures certain very definite advantages which we will be glad to discuss with you.

INDUSTRIAL RAYON CORPORATION
General Offices: 9801 Walford Avenue, Cleveland, Ohio
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Manufacturers of

Premier Rayon

and SPUN-LO

April 2, 1932

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Editor: Douglas G. Woolf

Chiseling: A Sport Becomes a Menace

WE ARE all participants in the new national sport of budget-chiseling. Either as individuals or as members of company organizations, or both, we have been playing the difficult game of reducing expenses in line with reduced income.

Although we would not choose this voluntarily as our favorite form of recreation, it is not entirely devoid of health-giving possibilities. Many of us have become, perforce, more efficient; we have learned to utilize each budget dollar more effectively and even to get an occasional thrill out of doing so.

However, the sport also has its elements of danger. The most careful judgment must be exercised if we are not to sacrifice productive activities in the chase for economy. Standards built up over a period of years, and prospects for the future, may be impaired.

▼

The Federal Government has this same problem. We have no intention of discussing, at this time, the involved questions of "balancing the budget," sales tax, public works et al. We are concerned merely with the possible effect of the economy drive, on such productive work as that performed by the Department of Commerce—and, specifically, by the Bureau of Foreign and Domestic Commerce.

That bureau prepared an estimated budget of $4,870,000 for the fiscal year 1932-33 against an appropriation of $5,087,000 for the fiscal year 1930-31. For this sum, in the latter year, it rendered 3,966,000 services to industry and trade. Through its foreign trade services alone, it produced actual dollars-and-cents results of $57,554,812 according to reports made voluntarily by American firms, representing of course only a portion of the total.

And yet this bureau has been the target of vicious attack in Washington and elsewhere. It has been represented as a "racket" supported by the people's money. Attempts have been made, not to reduce its appropriation in line with reductions generally in governmental expenditures, but to single it out as a subject for such radical slashing as would render it impotent as a service organization.

▼

Textile manufacturers have used the resources of the Department of Commerce, and possibly particularly of the Bureau of Foreign and Domestic Commerce, to an increasing extent in recent years. They have found there a willingness to help business to help itself, quite free from any attempt to usurp the prerogatives of business. They have encountered, through such conferences as those held by Secretary Lamont with cotton manufacturers, a desire to aid, through counsel and suggestions, any constructive movement undertaken by the industry.

Appreciation of this type of assistance should be made vocal if one of the necessary government activities is not to be destroyed by attempts to chisel at a dividend-paying investment.

The Week in Textiles

as Reflected in This Issue

General

Russia's Fabric Activities
Rapid increase in Russia's purchases of textile manufacturing equipment clearly indicates intent of U.S.S.R. to become leading factor in fabric production, and may have serious repercussions in world fabric market. *(page 24)*

Life of Conveyor Belts
The factors which control conveyor-belt life are divided into three classes—those which can be controlled by the designer and manufacturer, those which can be controlled by the operative, and those over which no control can be exercised. *(page 30)*

No Ramie Industry
The reasons for the absence of a ramie industry in this country are listed, and it is pointed out that the chief difficulties lie in the decorticating of the fibers and in the subsequent processing. *(page 31)*

Federal Specifications
Further details of the textile test methods drawn up by the Federal Specifications Board have been made available. Weight per square yard and linear yard, thread count, width, color fastness, and shrinkage are the subjects considered. *(page 36)*

Southern Show Reservations
About 80% of the available space at the tenth Southern Textile Exposition has already been reserved according to reports this week. The show will be held in Greenville in the week beginning Oct. 17. *(page 40)*

New Novelty Twister
Announcement is made of the development of a new fancy twisting frame designed for the production of a wide range of novelty yarns. Outstanding features of the machine are described. *(page 46)*

Cotton

Combined Stapling Test
Predetermination of the spinning qualities of a cotton is made possible by a combined stapling test which provides a complete analysis of its physical properties. *(page 26)*

Second Cotton Week
National Cotton Week plans are being developed with view to repeating the success this promotional effort recorded last year. *(page 29)*

Cotton Sagging
The cotton market has been sagging day by day for the last week or so. Rallies lack vigor, and lack of support rather than selling pressure is the cause of the recession. *(page 53)*

Yarns at New Bottom
Further decline in cotton yarns brought prices to a new low this week below the bottom touched last October. Buyers remain unimpressed and cautious and sellers believe best interests might be served by calling in yarn salesmen from the road. *(page 53)*

A Try-Out for Cottons
Cotton goods are getting a strenuous try-out with dull trade and sagging raw material. The resolution to hold prices and curtail production is being stoutly maintained. *(page 55)*

Wool

Designating Direction of Twist
The much-discussed question of direction of twist in woolen and worsted yarns, both single and plied, is clarified. The views of both factions are set forth, and the opinion of what we believe to be the majority is cited. *(page 48)*

Wool Decline Resisted
The decline in raw wool has met resistance and the market is reported firmer at the lower basis reached last week. There is still an absence of general interest which is not surprising in view of the slow development of business in wool goods. Mohair prices have been adversely affected by large sale by National Wool Marketing Corp. from Government surplus to carpet manufacturers at low prices. *(page 54)*

Worsted Yarns Mark Time
Worsted yarns are marking time with no sign of revived interest. *(page 53)*

Fabric Openings Staggered
Wool goods mills plan to stagger showings of fall lines through several months to keep buyer interest alert; early response poor. *(page 55)*

The Textile Outlook

WEATHER is coming in for more than usual berating in the textile markets. Easter was too early to help spring goods and threat of cold weather in early April further adds to the congestion of spring business. Converters are more than ever behind the movement to stabilize prices on cotton goods for they would be injured by weakness just as they are on the threshold of doing something in a belated spring season. Apparently they cannot reasonably buy more gray goods at present and they consequently feel that mills should follow a strict curtailment policy when and if orders on the books run out. That is the best course for the safety of the whole market and reasons favoring such a procedure are so strong that violation would seem inexcusable. Wool goods are in a somewhat similar position with trade dull and the seasons backing up. Curtailment here seems a means for salvation. Silk goods are irregular and distress goods prevent prices from firming up. Knit goods are in fair position with specialty lines fairly well supplied with business. The whole textile field is suffering from the distributor's policy of cheapness at any cost. Efforts to stress quality so far fall on barren ground.

Knitting

Uneven Twist Cause of Streaks

Difference in luster caused by twist variation in the yarn produces horizontal streaks in full-fashioned hose. This variation in twist arises from carelessness in throwing. *(page 48)*

Plain Hosiery Quiet

Hosiery activity is limited largely to novelties and mills have difficulty in moving plain full-fashioned stocks, especially at low-price end. *(page 56)*

Spring Underwear Active

Easter, while below normal, brought fairly good business to manufacturers of lightweight underwear. *(page 56)*

Curtail Sweater Output

Close watch on sweater production helps market to maintain price levels despite slackening. *(page 56)*

"Not Permitted to Show a Profit"

Editor, TEXTILE WORLD:

Your editorial in last week's issue "Wanted: A Price Fixer" hits the nail squarely on the head and to my mind explains very simply one of the main reasons why the textile industry is floundering along with losses.

You state "—the purchaser of clothing has had absolutely nothing to do with the setting of unprofitable prices for textiles." How true that is! What man or woman is going to object to paying 20 or 25c. more for a garment if that would mean a profit for the mill producing the fabric? Just think what it would mean to a yarn mill or weaving plant today to be able to get an extra nickel a pound or yard for their product. That would certainly make things brighter for them and their employees, and what would that additional amount mean in the garment? Practically nothing, yet the mill cannot get that edge which would enable them to show a profit. In other words they are not permitted to show a profit—either sell at a loss or at best break even.

Eventually these "below-cost" outfits will surely have to yell for help and then you will see the market steady itself, and demand and get fair and profitable prices. The sooner these business-at-any-price manufacturers stop cutting each other's throats the sooner will we see a marked improvement in our industry and then a balance sheet will look like a balance sheet and not an obituary column. ROGER B. TAYLOR,
Treasurer, General Spinning Corp., Worcester, Mass.

Silk

Imitation Woolens

An American technologist presents his views on the "wool-like" silk men's wear fabrics recently developed in Japan. He discusses their construction, appearance, and handle, and shows that he has not been favorably impressed. *(page 32)*

Hoover Hears Silk's Problems

The many critical problems now facing the silk industry were laid before President Hoover and Secretary Lamont. *(page 40)*

Wavy Joinings in Silk Fabrics

The possible causes of wavy joinings in silk fabrics and a means of overcoming them are outlined. The remedial measure described in detail, provides a positive means of overcoming this defect. *(page 48)*

Styling Aids Silk

Distinctive styling of fabrics is a valuable weapon in making for stability in the silk industry and should be more generally used by manufacturers, as shown in TEXTILE WORLD Analyst this week. The principles discussed have application to other branches of the textile industry. *(page 51)*

Knitters Buy Silk

Current movement of raw silk is light, with hosiery knitters almost the only buyers; these firms refuse to cover ahead unless given special concessions. *(page 54)*

Yarns Quiet

Throwsters near the end of a deplorably bad season and serious situation faces industry. Light call for spun yarns. *(page 54)*

Sheer Fabrics Active

Broadsilk mills note increased call for printed chiffons and georgettes and steady, though light movement, of printed crepes; prices weak. *(page 55)*

Rayon

May Curtail Further

Rayon production, now down to almost 60% of capacity may be reduced further unless the decline in sales shows a slackening soon. *(page 54)*

The Business Outlook

EXAGGERATED anxiety about balancing the budget upset the mental balance of business and gave a set-back to spring optimism during the week; but All Fools' Day was celebrated by a return of congressional sanity, and somewhat embarrassing speed in plastering on the taxes everybody is asking everybody else to bear. The fiscal stage is now set for further deflation, unless the rapid expansion of Reconstruction Corporation activities and Federal Reserve open market operations can offset its influence. Bank credit contraction continues at about the same drastic rate as in recent months and is reflected in declining business volume and weak commodity prices. The steady unseasonal return of currency from circulation, reassuring from the standpoint of bank liquidity, is perhaps becoming a symptom of contracting consumer purchasing power and trade recession. A late spring upturn in merchandise freight movement is encouraging, but steel activity, power production and most other indicators have relapsed to low levels. All eyes are now turned to the intrepid drive of the automobile industry against the deepening depression. These dauntless adventurers have set up an inspiring standard.—*The Business Week.*

Processing

Chemical Washing Machine

A new machine for degreasing, scouring, and cleaning of raw stock, yarns, and other textiles is announced. Operating details provided. *(page 46)*

Oil Spraying Process

An improved process for spraying oil on raw cotton and other fibers is described. The object of the process is to lubricate the stock and provide better operating conditions. *(page 47)*

Dasheen Starch for Sizing

Studies on dasheen starch with a view to its use in commercial sizing and finishing indicate that the product may prove of considerable value in the textile industry. Its physical and chemical properties and advantages attributed to it are outlined. *(page 34)*

Russia's Fabric Dumping

May Affect World Markets

By H. Alexander Robiczek and René Leonhardt

Moscow Correspondent *Berlin Correspondent*

Group of American cotton-sowing machines at a tractor station in Russia

IN current consideration of the Soviet Government's plans for development of the Russian textile industry, several aspects which present vital problems both immediate and prospective to American textile interests have been largely ignored. A study of Russia's present position and plans reveals that that country is in ever-increasing proportion developing into a serious competitor for the world textile market—first in the field of raw materials, second in finished goods.

The remarkable growth during 1929 and 1930 in the purchase of textile machinery by the Union of Socialist Soviet Republics illustrates vividly their intentions in the field of production. Note the figures given in the accompanying table of machine imports. Between 1929 and 1930, there was an increase of almost 300% in the tonnage of foreign textile equipment bought by Russia, while the expenditures in Russian roubles increased considerably more than 100%.

Among the greatest increases were those for scutching machines, hackling machines, bobbin frames, jacquard and shuttling looms and flyer spinning equipment. Apparently, Russia is aiming at increased flax production and rapid development of the weaving division. It seems that Russia intends to hold knitting temporarily at least to a subordinate position; the drop in the purchases of knitting machines by tonnage in 1930 is even more pronounced than the increased demand for weaving equipment.

The Soviet's new machinery activity offers promise of repercussions in the world fabric market when all this equipment is in full operation. Russia's dumping policy need not be discussed here, except insofar as it is likely to be applied to finished goods. Obviously, the economic structure there permits underselling on the world market, and this has already been practiced in the cotton industry.

The Soviet government encourages orders even if it has to suffer loss. A question which has been little discussed hitherto is now coming to the fore. That is the question of the international control of Russian dumping on the textile market—be it through agreement on tariff measures or through refusal to furnish technical assistance in the equipment of its textile factories, which it secures freely from the United States and Germany as well as from Great Britain. Cooperation is gladly given by the suffering producers of textile machinery. The president of the Chamber of Commerce of Manchester, England, delivered a speech a little while ago, the substance of which was expressed in the sentence: "We hope that the financial status of the Soviets will improve in the quickest possible time so that they will buy not only our textile machines but also our fabrics."

The fallacy of such reasoning is self-evident, as Russia is not going to buy fabrics any longer than is necessary to put into operation the machinery bought for the specific purpose of manufacturing such goods. To illustrate this point, we have only to cite the fact that during the period from July to September, 1931, 750,000,000 yd. of heavy cotton goods (in particular clothing and wash goods) was produced in Russia. The sale of Soviet cotton at dumping prices on the Liverpool exchange in 1930 was in line with the previous dumping sales of Soviet goods in other branches of industry (lumber, wheat, petroleum). The problem which this dumping presents to the textile industry grows steadily as the Five-Year Plan approaches realization. We must keep in mind the amount of land devoted in Russia to the cultivation of cotton, flax, hemp and other textile raw materials, the number of sheep ranches and the importation of textile machinery into Russia, all of which increase yearly. These events are taking place slowly at present but nevertheless, with a steady persistence.

The Soviet Union has decided to quicken development of its agricultural machine production industry. According to the Five-Year Plan, machine producers are to deliver agricultural machines and implements valued at

1,600,000,000 roubles for the reconstruction of agriculture. A considerable portion of this apparatus is going to be devoted to the cultivation of fiber plants.

The land used for fiber growth in Soviet Russia increased greatly in 1930. By the figures given below, one can see the growth in the area devoted to some of the textile raw materials since 1925:

(In thousand acres)

	1925	1926	1927	1928	1929	1930	1931
Flax	4,048	4,023	4,023	4,285	5,073	5,550	6,175
Hemp	2,236	2,371	2,363	2,209	2,402	1,854	2,395
Cotton	1,482	1,630	1,850	2,287	2,549	3,686	5,681

On the basis of the figures for 1925, the cotton fields under cultivation in 1930 show the most extensive increase, namely 161%. Cotton fields under public control have increased by 38%, those administered by the collectivistic organizations by 17% and those belonging to private ranches by 11%. The cotton growing concerns possess altogether 130 machine and tractor stations, having at their disposal 125,000 hp.

Average planted to flax has risen 37.1% since 1925. In the spring of 1931 the flax and hemp concerns possessed 77 machine and tractor stations with a total of 38,500 hp. and in the fall of the same year, 150 machine and tractor stations with 75,000 hp., in other words almost twice as much as in the preceding spring.

In 1930 there were 238 hemp and flax dressing works and in 1931 there were 489, or more than twice as many. The land under cultivation at the opening of 1932 was expected to have increased 283.3% in the case of cotton, 52.5% in the case of flax and 2.5% in the case of hemp, the statistics of 1925 being used as the basis of comparison.

According to the Five-Year Plan Russia's cotton yield should rise from 399,660 tons in 1913 to 1,186,870 tons in 1932-1933, equivalent to one-fourth of the world crop before the war. Soviet Russia would then stand third behind America and India, but ahead of Egypt. In 1913 Russia's share of the world flax production amounted to 27%. It is planned that Russia's share will rise to 50% at the expiration of the Five-Year Plan.

The land devoted to hemp has increased from 1928 to 1931 by 140,790 acres. It is believed that the fifth year of the five-year program will show an increase of 2,470,000 acres, consequently about 2,330,000 acres would have been added to the cultivation of hemp in the years 1931-1933. As a result, there would be about three times as much land devoted to hemp in Soviet Russia as in the rest of the world. The plan attaches great significance to the establishment of public lands for the cultivation of flax and hemp.

The growth actual and potential in raw material supply and manufacturing equipment gives a clear picture of Russia's intentions in the textile field, and warrants the most serious consideration of the textile industry throughout the world.

*Child at work in a Tiflis (Transcaucasia) **textile mill***

THE VALUE OF THE MACHINERY IN OPERATION

(In thousand roubles)

1931, 1st Quarter	Cotton	Coarse Wool	Fine Wool	Flax
Spinning machines	6,520.0	93.0	132.4	314.0
Looms	159.2	2.4	3.5	10.1
2nd Quarter				
Spinning machines	7,437.0	94.3	135.1	325.0
Looms	184.5	2.5	3.5	11.2

RISE IN PRODUCTION AS COMPARED WITH 1930

	1930	1931	Per Cent Rise
Finished cotton goods (million yd.)	2,547.22	2,896.13	13.7
Worsted goods (million yd.)	43.81	25.17	42.5
Fine woolen goods (million yd.)	43.05	49.81	15.7
Coarse woolen goods (million yd.)	34.33	35.42	3.3
Cotton cloths (million yd.)	20.38	32.15	57.3
	141.57	142.55	0.7
Silk fabrics (million yd.)	21.25	27.35	29.1
Knitted linen (thousand tons)	6.05	7.6	38.8
Knitted linens for technical purposes (thousand tons)	1.98	3.19	579.0
Hosiery (million pairs)	97.0	132.1	36.2
Knitted wash goods (million pieces)	17.8	22.2	24.7
Flax fabrics (million sq.yd.)	218.47	213.24	—2.4
Flax fibers (thousand tons)	4.29	4.4	3.6
Rope (thousand tons)	26.7	28.4	46.8
Twine (thousand tons)	21.3	21.6	0.3
String (thousand tons)	6.2	8.1	29.4
Bags (million pieces)	77.4	67.1	—13.0

A comparison with schedules of textile imports into the USSR shows that the imports fall in the same degree with which the purchase of textile machinery by Russia and the production of textile goods in the Soviet Union rise.

TEXTILE MACHINERY IMPORTED INTO U.S.S.R.

	1929		1930	
	Tons	1,000 Roubles	Tons	1,000 Roubles
Scutching machines	11.0	13.0	765.2	739.0
Carding machines	537.0	404.0	1,954.0	1,387.0
Hackling machines	14.3	15.0	201.0	148.0
Worsted spinning machines	56.6	76.0	256.5	359.0
Ribbon weaving and stretching machines	157.0	54.0	639.60	649.0
Bobbin frames	5.5	9.0	466.80	842.0
Spindle rails	285.0	225.0	1,169.0	941.0
Flyer spinning machines	19.8	23.0	488.40	538.0
Continuous ring spinning machines	507.5	447.0	3,645.0	3,242.0
Self-acting mules	58.3	43.0	53.9	39.0
Silk winders	.....	.....	169.55	262.0
Cutting machines	7.7	12.0	18.7	31.0
Smoothing machines	38.5	31.0	42.9	38.0
Looms (Jacquard and shuttling looms not counted)	14.3	12.0	68.0	61.0
Jacquard and shuttling looms	.....	.....	1.1	2.0
Net frames	0.44	0.5	229.0	170.0
Knitting machines	817.0	1,763.0	95.7	296.0
Dyeing machines for fibers, yarns and fabrics	976.9	892.0	20.9	21.0
Machines for mercerizing	.....	.....	38.5	46.0
Other weavers' machines	1,971.0	1,190.00	2,588.4	3,498.0
	4,577.88	5,209.50	12,912.15	13,309.00

"Combined Stapling Test" *Predetermines the Spinning Qualities of Cotton*

◆ *In view of the variability of the raw material, it is evident that the characteristics of cotton yarns will vary according to the properties of the stocks from which they are spun. To predetermine what the yarn characteristics will be and what difficulties will be encountered in processing the stock is highly desirable. The accompanying article, abstracted from the February issue of the Journal of the Textile Institute, discusses a "combined stapling test" which is said to make such predetermination possible. Inversely, by examining the fibers in a yarn it is possible to determine the type of stock from which it was spun.*

THE term "staple" is a comprehensive one said to include length, strength, fineness, uniformity, drag, etc., all of which contributes to the spinning and textile value of the raw cotton. A set of simple laboratory tests has been evolved which gives a quantitative result for each of these characters; and the results of these tests help to determine the spinning value.

Fig. 1 shows single combed seeds of four types of cotton, Indian, American, Egyptian and Sea Island, and demonstrates the variation in length of lint from type to type. This is further illustrated in Fig. 2, which depicts sorter diagrams of samples of three commercial cottons (a Sea Island, an American, and an Indian); this also emphasizes the variation in length of the single fibers to be found in any one sample of cotton. More important from the spinner's standpoint, however, are the sorter diagrams in Fig. 3, which show a difference in length between two *deliveries* of a Boweds cotton.

Furthermore, a microscopic cross-section of a number of fibers from a single seed before these have entirely ripened will reveal a wide variation in original cell diameter as well as the degree of thickening of the walls. These two factors constitute the fineness of a cotton.

The number and regularity of the convolutions in the fibers of any cotton depends upon the degree of thickening of the fiber walls; a well convoluted cotton is one that has a normal and regular degree of thickening throughout. The significant variables of the cotton fiber are therefore (a) length, (b) original cell diameter, and (c) degree of thickening.

The following "combined stapling test" is proposed to measure these: (1) A staple diagram is made from a sample (15 mg.) by the Baer method. This gives a length analysis. (2) Fiber weight per unit length (centimeter) is measured on five tufts of 100 fibers each down the diagram. This is proportional to the area of the cross-section of the fiber wall and depends on both the original cell diameter and degree of thickening. (3) "An immatury count" is made on five similar groups. This gives the significance of the fiber weight, separating the degree of thickening from original cell diameter.

Sampling and Length Sorting

The weight of 15 mg. ($\frac{1}{4}$ grain) is a suitable quantity from which an efficient observer can make a Baer diagram that fills a velvet pad of convenient size. In a sample of this size, there are 3,000 fibers, which is a large enough amount to give a fair representation of the character of all the fibers in the lot.

In obtaining the sample from the bales, the following method is adopted: Small tufts are taken from different parts of the bale to make the envelope sample of approximately 1 oz. that is stored in the laboratory. This is further sampled by taking 32 tufts from sample, these being as far as possible "natural units"; i.e., individual tufts, pre-existent in the sample. Each of these tufts is doubled and drawn and separated into two halves, one half being rejected. The remaining half tufts are then taken in pairs, doubled, drawn, and halved; and

Fig. 1. Combed Cotton Seeds. Left to right:—Sea Island, Egyptian, American, Indian

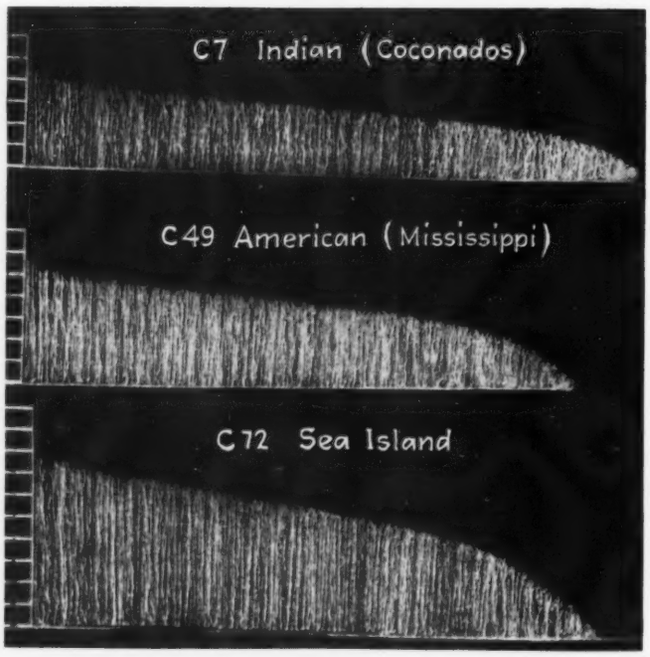


Fig. 2. Typical Baer diagrams of short, medium, and long-stapled cottons. The scale represents quarters of an inch

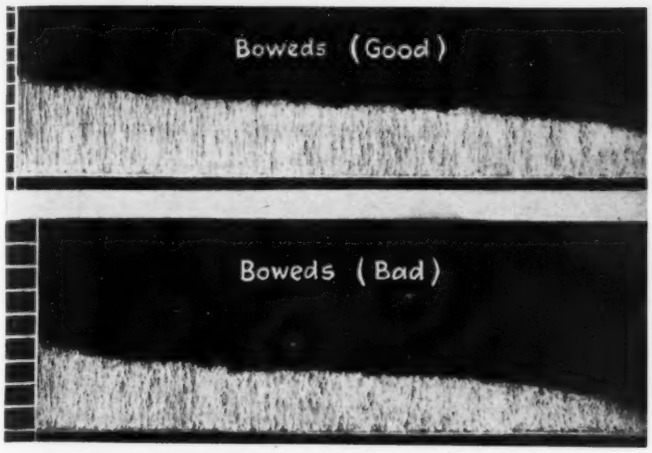


Fig. 3. Baer diagrams of Boweds cotton showing variations of staple. The delivery represented in the lower diagram was not satisfactory to the spinner

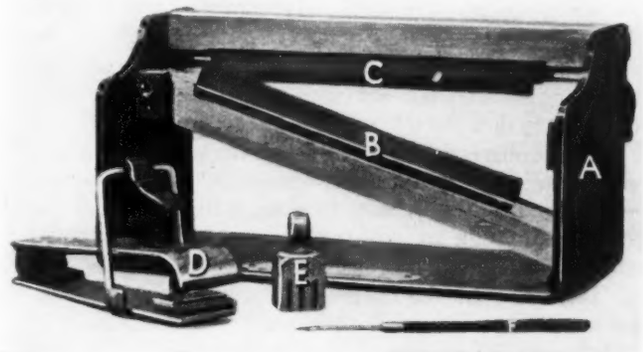


Fig. 4. Baer sorter and accessories

again half are rejected. This process is repeated until only one small tuft remains. This is pulled out into a web and alternate tufts taken to form a 15 mg. sample.

The instrument in use at the Shirley Institute, [England] for making the staple diagram is the Baer sorter. There are more elaborate sorters on the market, but with a trained worker the Baer sorter proves efficient and is not too expensive. The apparatus (Fig. 4) consists of a rack *A* on which are resting nine lower combs *B* 5 mm. apart and three upper combs *C;* the former can be dropped successively. A grip for pulling the lint *D,* a wooden depressor *E,* blunt needle *F,* and a board covered with black velvet complete the apparatus necessary for making the diagram. The time taken for making a Baer diagram is from about $\frac{3}{4}$ hr. for a short-staple Indian cotton to $1\frac{1}{2}$ hr. for a Sak. or Sea Island.

Measurement of Lint Lengths

From observation of the diagrams only, a fairly accurate estimate can be made of the length distribution. Permanent records can be made either by photographs or tracings. A tracing gives us the whole range of lint length in the sample, and the distance along the base line can be taken as proportional to the number of fibers. The first step is to divide the diagram so that the fibers are placed in groups or classes. Fig. 5 shows a tracing of the diagram of a Texas cotton with the fibers divided into classes of 2/16 in.; that is, all the fibers lying between 21/16 and 19/16 are grouped as 20/16, etc. Actually the limits of the classes are marked on the tracing, and perpendicular lines are dropped to the base line. The distance along the base line in each part can be taken as proportional to the number of fibers in each part.

From this treatment of the Baer diagram, there can be obtained: (a) the number of fibers in each class, which is called the frequency (this is expressed as a frequency polygon, the length being marked off along the base line and the frequency along the vertical); (b) the area of each class or group (this is calculated by getting the product of the frequency and the length); (c) the mean or average length (this can be obtained by dividing the total area by the number of fibers); (b) the relative weight of lint in each class, and therefore the "mode" or most frequent length, constancy of fiber weight down the diagram being assumed.

It has been found in practice, however, that neither the mean nor the mode adequately describes the length characteristics of a cotton or gives a measure of the very important practical lengths obtained in the hand-stapling test. The hand-stapling test, however, is subject to personal errors; and the results are not always reliable.

A new measure called the effective length has lately been devised which is, as far as possible, independent of the personal element but is on the average a close approach to the hand-staple length. This is also derived from the Baer diagram; and, in addition, two other new measures are suggested, namely, the percentage dispersion, which is a measure of the variation of length among the fibers that are the most important in spinning, and the percentage short fibers which is a measure of the quantity of very short hairs that are definitely disadvantageous in spinning.

Fig. 6 represents the tracing of the Baer diagram of a cotton. To obtain the effective length, first halve the maximum length OA at Q, and draw a horizontal through Q to cut the curve at P'. Drop a perpendicular from P' to meet the base line at P. Mark off OK equal to $\frac{1}{4}$ OP, and at K erect a perpendicular KK', cutting the curve at K'. Halve KK' at S, and draw SR' parallel to the base line and cutting the curve at R'. Drop a perpendicular R' R, mark off $OL = \frac{1}{4}$ OR, and at L erect a perpendicular to cut the curve at L'. Then the length represented by LL' is the effective length.

The actual construction described is not really necessary in practice, since, if the trace of the Baer diagram is on squared paper, ruled in $\frac{1}{16}$ in., the value of the effective length can be obtained merely by reading off the various lengths and by a simple mental division.

Sorted Fiber Weight per Unit Length

The Baer diagram provides a good sample for fiber-weight determination. The fibers are straight and parallel, tufts taken at intervals on the diagram give a better selection than tufts taken from the bulk, and possible differences between long and short fibers are made evident. The following apparatus is required for fiber-weight determinations: (a) A cutter for the fiber consisting of two safety-razor blades, set 1 cm. apart in a brass holder. If fiber weights of short Indian cotton are to be determined, an additional cutter will be required with the blade 0.5 cm. apart. (b) A large lens mounted on a stand to facilitate counting. (c) A micro-balance. This is a torsion balance and consists of a glass beam mounted on a horizontal quartz fiber set on a brass frame with an adjustment for altering the tension. A small galvanometer mirror is set where the beam is attached to the quartz fiber, and a small hook is attached to the beam. A meter scale is placed in a perpendicular position so as to be reflected in the mirror observed through a telescope with a cross wire in the eyepiece. (d) A standard 0.5 mg. weight used for calibrating the balance,

small black dish, linoleum, bulldog clips, and forceps complete the apparatus.

In weighing, five tufts are taken from the Baer diagram, one from the longest fibers, another from the $\frac{5}{8}$-in. group, and three spaced equally along the base between the two. Each tuft is taken in turn, clipped to the edge of a piece of linoleum by means of a bulldog clip, and combed straight, being held in position by the tip of the finger. Centimeter lengths are cut from the middle by means of the cutter. These are placed between two microscope slides so that a fringe of about 2 mm. protrudes. With the assistance of the lens, 100 fibers are counted from each group, being picked up with the forceps and placed in the black dish. The zero of the balance is observed, the bundle placed in the pan, and the deflection noted. The balance has previously been calibrated and a factor determined so that by a simple calculation the deflection can be expressed in terms of fiber weights per unit length.

Immaturity Count

The fiber weight per unit length is a fair measure of the fineness of the cotton, but it is possible to have two cottons, one with a small diameter and a normal degree of thickening, and the other with a larger diameter and a subnormal degree of thickening, which have the same area of cross-section of the fiber walls and the same fiber weight per unit length. It is important, therefore, to determine the significance of the fiber weight—that is, to get a measure of the degree of thickening of the fiber. But of still greater importance to the spinner is the figure for the number of fibers with practically no secondary thickening—"dead" fibers—for these produce neps in spinning and affect the appearance of the yarn. The obvious method of measuring this degree of thickening is to cut transverse sections and measure the wall thickness. The method is direct but has several disadvantages.

A quick and convenient method has been developed depending on the relation between the degree of thickening and the convolutions. It was pointed out in the discussion of the convolutions that their presence or absence was dependent on the degree of thickening of the fiber, and the test is based on the observations that the relations still hold good when the fibers are swollen in caustic soda solution. The effect of swelling is to increase the wall thickness, and thus all normally thickened and convoluted fibers become rod-like. The very thin-walled fibers, those that were flat-ribboned with no convolutions, now become fully and characteristically convoluted. There are, in addition, some fibers which can be described as thin-walled; these fall into either of the first two classes, being slightly convoluted before swelling and still retaining some convolutions after swelling. Thus it is possible to classify the fibers into three well-defined groups, described as normal, thin-walled, and dead fibers.

The apparatus necessary to make the test comprises a microscope with a traveling stage, a $\frac{2}{3}$-in. objective, and a 15X or 10X eyepiece. The microscope condenser should be arranged to give a rather exaggerated definition (that is, the wall and lumen very well defined), and either daylight or artificial lighting can be used. After the fiber weight has been determined, five tufts of lint are left from the Baer diagram. Each tuft is laid on a microscope slide so that the fibers are parallel but separated, a circular cover-slip is placed over the middle of the fibers, and these are then irrigated with 18% caustic soda solution (40° Tw.). When the swelling is complete, the fibers are examined and classified. The method adopted is to count the total number of fibers on the slide by allowing them to traverse the microscope field. This is repeated, and the number of rod-like fibers is determined; it is again repeated, when the definitely convoluted fibers are counted. By subtraction the number of thin-walled fibers is obtained. This count is made on the five groups, the percentages of normal and dead fibers are worked out for each group, and the mean for the total is determined.

The number of abnormally thickened fibers in a raw cotton can be determined by using the Congo-red staining method. Abnormally thickened fibers swollen with 18% caustic soda and afterwards treated with an aqueous solution of Congo red, show bright red spirals due to the spreading of the cuticle and consequent staining of the secondary cellulose by the Congo-red solution.

Value of the Tests

In view of the variability of cotton as a raw material, the value of the tests herewith described must now be obvious to all who deal with it. At present the spinner demands a certain grade and staple and assumes uniformity in his deliveries and not until the actual processing are differences made obvious. Use of these tests would give necessary information; and, at the same time, the figures obtained for lint length and fiber weight are valuable in deciding on roller settings, counts, and turns per inch of a given cotton. The immaturity count should give some measure of the appearance of the yarn, of neppiness, and of level-dyeing properties, the latter depending upon the degree of thickening of the wall. In addition, useful information may be obtained concerning suitable cottons for mixing and for yarn specifications, and finally the type of cotton used in competitive yarns.

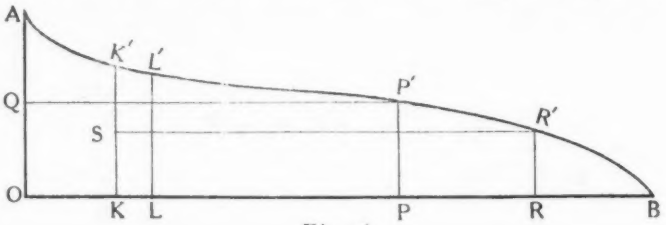
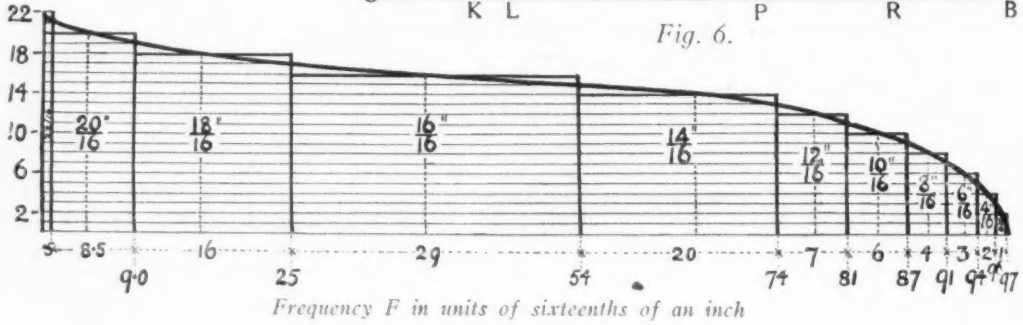


Fig. 6.



Frequency F in units of sixteenths of an inch

Fig. 5. Analysis of the tracing of the Baer Diagram of a Texas cotton. The total number of hairs is represented by 97. Of these, 8.5 are classed as 20 sixteenths, 16 as 18 sixteenths, and so on. The mean length is $\frac{29}{32}$ in., and the mode is one inch.

Nation-Wide Support Pledged to Cotton Week

NATIONAL COTTON WEEK, scheduled for the week of May 16, is off to an auspicious start. The unqualified expressions of support that have been received by the Cotton-Textile Institute from merchants in all sections of the country indicate that this merchandising project will surpass in scope and national interest any previous undertaking of a similar character by the cotton industry.

In response to the preference of retail merchants, the date for the observance of National Cotton Week this year is two weeks earlier than a year ago. One of the country's outstanding merchants in commenting upon this change of date stated: "This year with a more propitious date, plus the knowledge gained from last year's experience, we look forward to even better results."

In addition to the pronounced advance interest on the part of wholesale and retail merchants, a gratifying number of offers of cooperation have come from important interests outside of the cotton industry. For example, the Southern Railway will set aside a page for National Cotton Week in the new issue of its time tables for distribution early in April. Similarly many manufacturers of nationally-known products will feature the official symbol in their advertising and other promotional material.

National Cotton Week display posters in red, white and blue have been prepared for general distribution to the trade. The poster design carries an outline map of the United States over which is superimposed a cotton stalk with four bolls. The color combination was selected in keeping with the current Washington Bicentennial celebration. The institute will also furnish merchants and others concerned with a broadside of suggestions for advertising and display of all kinds of cotton textiles.

In making this announcement, George A. Sloan, president of the Cotton-Textile Institute, stated:

"National Cotton Week this year is of unusual significance. It represents an aggressive effort throughout America to stimulate greater business activity in a commodity of everyday use and of world-wide importance. Obviously any increase in the demand for cotton products will be of direct benefit to 12,000,000 people whose livelihood is dependent upon the growth, manufacture or distribution of cotton. Judging by the initial reaction of the retail dry goods trade, which last year spent $1,500,000 in launching this event, the promotion of National Cotton Week in May should play an important part in the nation's reconstruction program."

Cotton Association to Cooperate

The American Cotton Manufacturers Association, representing the cotton textile industry of the South, will hold its next annual convention in Atlanta, Ga., on May 20-21, having selected these dates to give added impetus to National Cotton Week. In the meantime, W. M. McLaurine, secretary, is planning to visit merchants throughout the South in order to assist them in the preparation of advertising copy, window displays, store decorations and feature events. Mr. McLaurine will also call upon local chambers of commerce, Rotary, Kiwanis and other civic organizations with a view to coordinating a "solid-South" observance of National Cotton Week.

In the case of New England, which shares honors with the South in cotton manufacturing and has therefore a direct interest in the stakes of this event, Russell T. Fisher, secretary of the National Association of Cotton Manufacturers, will again take an active part in enlisting the cooperation of all interests affected. He will be assisted by a committee of mill executives from his association. Last year during National Cotton Week the merchants of Boston, with the help of their Retail Trade Board and Mr. Fisher's organization, made an outstanding contribution to the nation-wide success of this event through unusual window displays and newspaper advertising, combining industrial, household and apparel uses of cotton.

Careful Operation Lengthens Life of Conveyor Belts

FOR many years engineers and superintendents have wished for some formula whereby they could calculate the reasonable service to be expected from a conveyor belt. However, due to the many variables in conveyor-belt operation, no one has succeeded in arriving at any satisfactory basis for such calculation. Factors which govern the life and durability of a conveyor belt have been investigated by the B. F. Goodrich Rubber Co., Akron, Ohio, and the results of this study are summarized herewith.

These factors include length and width of belt, weight and size of material to be handled, temperature and corrosive properties of material, and lift. These conditions are not subject to control.

Factors controlled by the designer and manufacturer are as follows:

1. *Loading chutes*—Loading approaches an ideal condition when the material is deposited on the belt at the same speed and in the same direction as the travel of the belt. The design of the chute and the regulation of speed are among the most important factors governing the wear on the belt cover. The impact of delivery is also important. Installation of a grizzly to screen fine material to the belt behind the loading chute provides a cushion to protect the belt from falling lumps, greatly prolonging belt life.

2. *Protective devices*—Decking, brushes, and other devices to prevent materials spilling on the return side of the belt, or clinging to pulleys, are important factors governing life of belt.

3. *Thickness of covers*—Money can be saved or wasted by intelligence in specifying the cover thickness. The cover thickness should be properly balanced to meet the condition of service. On some installations the material seems to wear the belt only in the middle of the top cover. In such cases it is economy to order the belt with an extra thickness of cover in the middle. This can be accomplished either by adding to the thickness of the cover in a strip along the middle or by the "stepped ply" construction.

4. *Quality of belt*—Manufacturers of belts make several different qualities at different prices. The quality of the cotton fabric is the same in all grades, although various weights can be specified by the buyer. The cost is determined largely by the quality of rubber with which the cotton is impregnated and also the quality of rubber in the covers. Sometimes it is poor economy to use too high a quality, since the belt may be damaged by injury and deteriorate due to moisture before the covers can be worn out. Operators should be encouraged to keep their worn-out belts long enough so that representatives of the belt manufacturers may have a chance to examine them. Valuable suggestions usually result which are helpful in the design of more economical belts for future installations in the same plant.

5. *Design of conveyor*—The life of the belt is governed to some extent by the design of the idlers, the driving pulleys, skirtboards, trippers, and other parts of the structure. A few dollars saved in the design of a loading chute or the installation of brushes may take its toll ten times over in the more rapid wear of the belt.

6. *Speed regulation*—The speed of the conveyor is determined by its original design, although it is subject to change. A belt which travels faster than is necessary to handle its load cannot be expected to deliver as much tonnage as a belt well filled, since the delivery of a small load can wear the belt just as fast as a larger load.

Factors under control of the operator are as follows:

1. *Care in installation*—Many belts are hopelessly damaged during installation or may run crooked due to failure to cut the belt square at the joint.

2. *Correct alignment*—A maintenance of correct alignment of idlers and trippers avoids crooked running and edge injury.

3. *Maintenance of proper tension*—Belts run too tight are doubly liable to injury because of the excessive tension of the belt structure. This excessive tension may be found necessary to prevent slipping, but may be relieved by pulley lagging or other corrective factors.

4. *Proper lubrication*—Lack of lubrication can be injurious to the belt in more ways than one. When idlers become stuck they wear sharp and cut the belt. When idlers turn hard they increase the load and force the operator to increase the belt tension.

5. *Cleaning of pulleys and maintenance of cleaning devices*—A common source of damage to belts is the accumulation of material on pulleys, particularly driving pulleys and tripper pulleys. Purchase of cleaning devices is a good investment.

The life of conveyor belts may be expressed in various ways—number of years, number of tons handled, cost of belt per ton, or the cost of belt per ton per foot conveyed. The most common method, and probably the most satisfactory, is the cost of belt per ton delivered, computed by merely dividing the purchase price of the complete belt by the number of tons delivered during its life.

In the accompanying table, which has been compiled from selected records, is illustrated the variation in cost for coal belts. In every case these records were considered by the user to represent satisfactory performance. Some of the records were made several years ago, before conveyor belts reached their present state of development in construction and material.

Variation in cost of conveyor belts

Length	Width	Tons	Cost per 1,000 Tons
2,400	48	19,000,000	$0.76
148	30	665,861	0.57
1,775	48	4,400,000	1.70
1,043	42	7,919,000	0.70
190	36	4,540,000	0.09
33	21	5,633	16.70

Many Obstacles Hinder Establishment of Ramie Industry

FOR many years there have been sporadic attempts to introduce a ramie industry into this country. The U. S. Department of Agriculture has investigated the subject of ramie culture, and has demonstrated the possibility of growing the plant successfully on suitable soils from Maryland to Texas, in localities where the soil does not freeze to a greater depth than 2 in. Further, a large number of attempts have been made to devise a method for the successful recovery of ramie fiber from the decorticated plant stalks; and these methods have been thoroughly tested, both by private citizens and by government bureaus. And yet we have no ramie industry.

The ramie, or rhea, plant is a nettle, of the family Urtica. There are many varieties, all natives of Eastern Asia, where it has been cultivated and made into textile products for many centuries. The stalks from which this bast fiber is obtained consist of an outer bark, a layer containing the fiber imbedded in various gums and resins, and an inner wooden core. The fibers are of great strength, length, and fineness, and have a luster almost approaching that of silk. The plant yields some fiber the first year, but does not come to full yield until the third year. The yield of fiber is about 6% of that of the green stalk.

In the East, ramie is not grown on large farms or plantations but on small home plots. The recovery of the fiber is entirely a hand operation, which consists of stripping two "ribbons" from each stalk and then scraping the "ribbons" by hand to remove the loose bark and gums. This is the only method available, for the nettle stalks must be treated while in the green state, and therefore at, or near, the place where they are grown. The fiber is exported in the form of a "ribbon," the outer bark being removed, and the layer of fiber stripped away from the woody center. The result is known in the trade as China grass.

If the ribbons are properly decorticated, thoroughly dried, carefully baled, and then protected from moisture during transit or in warehouses, so that no growth or development of mold or bacteria takes place, the owners of a really satisfactory degumming process might hope to build up an industry based on imported fiber, instead of trying to establish plantations in the country of manufacture. Imports of ramie are liable to vary in quality, and often the fiber is found to be materially weakened and damaged either by being baled in a damp condition or by becoming wet in transit. It is, however, possible to secure ramie of desired quality providing it is purchased through reliable houses having field representatives.

The chief technical difficulties which have interfered with the establishment of a large ramie industry in the United States are in the degumming of the fiber, and in the subsequent manufacture. Both of these troubles are very serious. Proper degumming is of vital importance, as the process must be satisfactory in removing the gum but not cause a deterioration of the fiber. Chemical degumming processes have been chiefly employed, with more or less questionable success. Bacteriological degumming has also been used but has never made great headway. The conversion of the properly degummed fiber into yarns necessitates proper equipment. If long fibers are to be handled, a modified flax system must be used. If short fibers are used, a modified French worsted and spun-silk system must be employed. In either case it is necessary to have additional equipment to handle the different grades of waste, either spun into short fiber yarns or treated for merchandising as a wool mixture with spun silk, rayon, and cotton.

A number of decorticating and degumming processes have been devised in France, England, Germany, and the United States. Claims for many of them have led to the promoting of abortive new ramie fiber enterprises, the failure in some instances apparently being due, not to the preparation of the fiber, but rather to unusual difficulties in handling prepared ramie fiber by known textile methods. From the fiber prepared by these processes, however, goods have been spun, woven, and knit. Ramie products are reported as regularly manufactured in at least two plants in Germany and England, one or more in France, and possibly one in Italy. Ramie is also largely used in Japan; in fact, the Japanese are understood to be the largest buyers of ramie. In Germany and this country, Welsbach mantles have been made from it.

Many attempts have been made to develop a ramie industry in the United States, but all have been little more than an experiment, and in many cases the activity has been rather in the selling of stock than in any real, sincere, creative effort. Failure in introducing ramie into the United States is very largely due to difficulties encountered in the proper and uniform degumming of the fibers, suitable equipment for converting into yarns, as well as attempts to operate on a small scale. It is probable that large operations are essential to commercial success. One has only to follow the story of the various attempts to introduce a linen industry into the United States to be made cautious, even with a fiber which has not had such an unfortunate history as ramie, a history made up of a long series of failures and financial loss.

Abstracted from a bulletin issued by Arthur D. Little, Inc., Cambridge, Mass.

Wool-Like Silk Men's Wear "Harsh as Sandpaper" . . .

Scarfs and Dress Goods Clever but Expensive

By James Chittick

◆ *The accompanying article represents an American technologist's reaction to the "wool-like" fabrics recently developed in Japan. Mr. Chittick discusses the structural details of the fabrics. He describes the Silk Polla as "hard, dead, unresilient, and 'cottony,'" but declares that the Silk Shetland may be considered a very fair imitation of a woolen fabric. He points out, however, that "price difficulties will, for the present time at least, bar any possibility of either type of fabric offering our wool trade any serious competition."*

IN the June 20, 1931, issue of TEXTILE WORLD, there was an interesting article dealing with what was described as "wool-like" fabric, written by Yoshio Nitobe, editor of the Japanese Times, Tokyo. Mr. Nitobe set forth at length the efforts made and the successes achieved by Totaro Aoki, head of the Awota Silk Textile Mills of Japan in the production of silk fabrics simulating woolens for men's clothing and other purposes. Several of these samples have been submitted to the writer, some bearing the name of Silk Polla and others being classified as Silk Shetland.

The general tone of the article would indicate that Mr. Aoki had opened up an entirely new field for the use of silk in the manufacture of men's wear, etc.; and reference is made to hopes entertained of finding a market for such fabrics in the United States.

Thrown Silk Employed

In the various examples before the writer, spun silk does not seem to have been used, the material employed being thrown silk, presumably of low grade, which has been worked up into yarns having special characteristics. These yarns are all rough and irregular; and many, or perhaps most of them, are quite hard or harsh to the touch. The yarns are of a corkscrew and crinkled type created by the application of twists of a most varied character and by the feeding in of the threads that are to be twisted together at varying rates of speed, so that some of the threads in the compound yarn will be longer than others. When the special twists are then applied to them, a rough, loopy, and corkscrew-like result is secured.

Woolen fibers have a characteristic spring and elasticity, while silk fibers lie down level and smooth. The curl that has been imparted to the silk threads in these goods is evidently relied on to give springiness and fullness to the yarn. Also, the yarns employed are free from any silky luster, this being mainly due to the special twistings given to them, and also to the fact that they appear to have been dyed "écru," in which treatment only a very small percentage of the gum is removed from the silk.

It may be remarked also that much of the yarn employed in these men's-wear fabrics has been weighted with iron dye. Two of these cloths—one black and one dark brown—have been made in a small, all-over, broken-weave effect. Another, with alternate ends of dark brown and dull slate, has a subdued broken-chevron effect. Another with a navy warp and a navy and dark-gray filling also has a broken-chevron effect, but smaller in size and with the gray of the chevron standing out clearly against the navy background. Still another has a black warp with narrow gray stripings running through it at intervals of about an inch and has a gray filling. In this case the gray color—both in the warp and filling—is secured by the twisting together of white and black threads. The ground of this is made up of very small, broken-up diagonals, or twills, running crosswise to each other after the manner in which a broken-twill weave is made.

Feeling Is Harsh

As to there being a suitability, or desirability, of these cloths for use in this market as men's suitings, the writer does not find himself in accord. The feeling of the goods is hard, dead, unresilient, and "cottony." In fact, some of them feel as if they were in most part, or even entirely, composed of cotton, being like heavy cottonades. The striped cloth is almost as harsh as sandpaper; and, owing to the very hard corkscrew twists in the yarns composing it, there is a spring to it almost like that of an elastic canvas. It would appear almost certain that not one of these Silk Polla men's-wear cloths would be accepted in this market.

The factory prices quoted in the article for Silk Polla is seven yen per yard of 29-in. width. As a matter of fact, the goods are 28 in. wide; and this would be equivalent to fourteen yen for 56-in. goods. Taking the yen at 50c in gold, this works out to the excessive price of $7.00 a yard.

Weighings made of these fabrics show weights running from 12½ to 17¼ oz. in 56 in. When we consider the costs attendant on importation, the import duty, and whatever reasonable profit would be looked for by the importer, it is quite evident that none of these goods will appear on this market, even if they were suitable for our

uses. Even their price in Japan, of $3.50 for 29-in. goods, would appear to give them no chance there against the woolen goods that could be imported into that country.

In the article referred to, many claims of merit are made for these goods; but they really mean very little. For instance, it is stated that "there is no shrinkage." Yes, but when the goods stretch out of shape, they will stay out of shape; and, similarly, some of the other claims deserve but scant consideration.

The trade will remember that several years ago a strong effort was made by competent silk manufacturers here to make men's-wear fabrics out of silk; and much ingenuity and talent were expended in the task, but the effort was fruitless.

Turning to the "Silk Shetlands," we find something much better. Two examples of these (both scarfs) fringed at the ends and with the warp material tied in a single row of knots, are among the samples submitted to the writer. These are about 60 in. long by about 11 in. wide. One of them presents a cross-over pattern. Bands of broken bars for a couple of inches alternate with bands of small motifs for an inch or more. This is a double fabric, the warp consisting of alternate ends of brown and slate, and the filling of alternate picks of white and white-and-tan double-and-twist. It has been so woven that the pattern on one side appears in reverse on the other; and, as the same colorings are used on the two sides, both sides have exactly the same aspect.

As the yarns entering into this fabric are of a corkscrew and slightly loopy character, giving them both bulk and spring, and as the cloth, though quite closely woven, is a double one, the resultant feel of the fabric, though slightly harsh, is a very fair simulation of certain kinds of worsted material.

The other scarf is really admirable and feels like wool. This is an elongated blocky pattern with cross bands of different widths tapering from wide to narrower, and with lengthwise stripings of the same nature. Three colorings are used—a buff, a brown, and a white; and the blocks and bars are all of solid color on both sides, although the color on one side will not be the color on the other side. Thus, for instance, on one side there may be a brown bar, and on the other side that part of the pattern may be white; or a white cross band on one side will extend in solid color over a buff, a brown, and a buff stripe and then will be broken off where a brown stripe interrupts. Beyond that it will commence again, extending over a buff, a brown, and a buff stripe, and then will be broken off again by a brown stripe.

In this material there are three separate fabrications in each part, so that where a white block will appear on one side, and, in the corresponding space on the other side of the scarf, a buff block, inside of these two cloths and not attached to either of them will be a solid brown block. The only places where the three fabrics interlace are at the edges, or outlines, of the respective blocks. The yarns used are of a crinkled, corkscrew nature, but are not hard twisted.

As there are three colors in the filling and three colors in the warp, it will be necessary to have three shuttles; and a pick of each color has to be woven in in succession—that is, one brown pick, one buff pick, and one white pick, and so on alternately. The picks per inch in each part of the cloth are only about 26 in the finished material; so, for the entire structure, the picks would be three times this, or 78 per inch. Similarly, there are about 30 ends per inch for each cloth, which would make 90 ends per inch in all.

This pattern can be made on a dobby loom and, in the opinion of the writer, would require eighteen harnesses —that is, six for each of the three colors. Two of the six harnesses would be needed for the part of the cloth of that color which appeared on the face, two for the inside cloth and two for the cloth of that color on the other side. Two extra harnesses would also be needed for the selvages.

Group of Silk Polla and Silk Shetland fabrics from Japan

This unquestionably, is a cleverly made, attractive, and salable cloth; and, owing to the triple, but detached, structures and to the peculiar twists of the yarn, it has a thoroughly woolly feel and is a most interesting fabric.

Two small samples of novelty dress goods which simulate wool very well were also submitted. In one of these, very coarse, soft twisted, spun-silk yarns have been used for effect threads; and, these fabrics also would seem to promise a considerable degree of usefulness and salability. As to the price, however, the article quoted gives figures of six to eight yen per yard for 29-in. Silk Shetland, which would be $3.00 to $4.00, and which, in 36 in. and in the wider widths, would mean a much higher price. These figures, coupled with our present tariff and the cost of importation, would seem to make it a very difficult matter to market these materials in the United States. Why they should cost so much in Japan is rather hard to understand, unless there has been an excessive cost involved in the making of the fancy twisted yarns.

Dasheen Starch

Found Suitable for Sizing and Finishing

By Margaret S. Furry
U. S. Bureau of Home Economics

STUDIES on dasheen starch with a view to its use in commercial sizing and finishing indicate that this product may prove of considerable value in the textile industry. The investigation, which was made by the Bureau of Home Economics, shows that the starch when heated with water forms a thin adhesive paste which may be applied to yarns or fabrics. When used for finishing cloth, for example, dasheen starch imparts sufficient stiffness to the fabric and gives it a desirable glossy appearance and firm handle. Since the starch has very small granules, it can be employed without modification.

The starch is obtained from the tuberous root growths of the dasheen plant (8), a variety of taro, which resembles in appearance the ordinary elephant-ear. Dasheens have been grown commercially in the Southern States of this country since 1913. A chemical analysis of the peeled tuber shows it to have a high starch content; and on experimentation it was found that the starch can be extracted easily with a minimum of equipment.

In this laboratory the starch was extracted from small, irregularly shaped, unmarketable tubers, as well as from those of better quality. The dasheens were peeled and finely ground. This pulp was put in heavy muslin bags and washed by hand in tubs of distilled water which was changed frequently. Washing was continued until the final wash waters remained almost clear. Then the wash waters were combined and the starch centrifuged out. After several washings in fresh distilled water and centrifuging, the starch was washed with alcohol and ether, air-dried at room temperature, and put through a 70-mesh sieve. It was necessary to use the centrifuge following each wash given the starch because the dasheen starch granules are extremely small, and a gummy substance present in the dasheen prevents rapid settling of the granules when suspended in water.

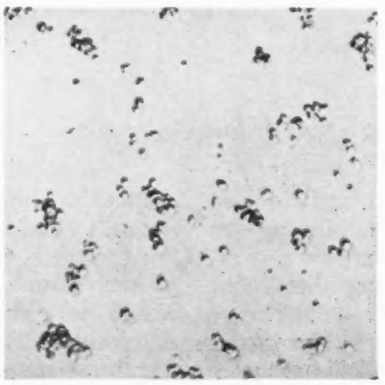


Fig. 1. Photomicrograph of dasheen starch granules

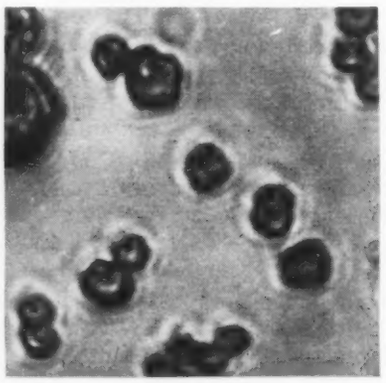


Fig. 2. Dasheen starch granules highly magnified

Photomicrographs of dasheenstarch granules are shown in Fig. 1 at a magnification of 250 diameters and in Fig. 2 at 1,600 diameters. For comparison, cornstarch granules (x250) are shown in Fig. 3. The dasheen-starch granules, which are the smallest known, occur sometimes in small aggregates, but usually are isolated. The most conspicuous forms appear to be irregular or rounded polygonal shapes. They have distinct, clear-cut, and somewhat concave facets. The hilum is small, fairly distinct, usually situated near the center, and often there appears to be a smooth hole at the hilum. The striae are either invisible or indistinct.

Size of Granules

In considering the requirements of a good size, the importance of penetration of the starch into yarns and fabrics is one on which there are many opinions (2), (7). Mill men disagree as to whether extreme penetration is important, and whether or not pastes should coat, as well as penetrate, yarns. Some believe that a size should not penetrate at all, but should be a pliable coating on yarns which can be removed easily when the cloth is scoured. In order to determine the amount of penetration required for his particular work, each mill man must, therefore, consider his own sizing problem, the twist and construction of the yarn he is sizing, and the intended use for the finished woven cloth. Starches differ greatly in their penetrating and coating powers, and an attempt has been made in this laboratory to explain some of these differences. It was believed that the size of the swollen granules of the different starches and the consistency of their starch pastes influence their penetration into yarns and fabrics. Therefore studies on these properties of starch pastes were made.

The length and width of a large number of raw-starch granules and swollen granules from cooked pastes of both dasheen and cornstarch were measured with a filar-micrometer attachment on the microscope. The results are given in Table I. Contrary to the view that starch granules swell in water and when heated finally burst, leaching out the inner substance, most scientific investigators (1), (6), (7), believe that these swollen granules do not ordinarily disintegrate. This study gives further evidence in support of the latter theory, since the swollen granules in the cooked pastes were not disrupted and could be measured easily. Since swollen dasheen-starch granules and swollen cornstarch granules have a widely different range in size, this property must in some way account for the viscosity or consistency of their respective pastes. It has often been stated that the value of starches for cotton-mill purposes depends on the viscosity of their pastes. A knowl-

edge of the size of the swollen granules, however, is probably of even greater importance than viscosity in the selection of a starch for sizing and finishing of cotton.

Ripperton (*5*) also has recently suggested that for mill purposes a starch may be evaluated by the swollen granules in its paste. He has found that there is a direct relationship between the viscosity of a starch paste and the product of its concentration and the volume of the swollen granules in the paste. This product is termed the "swell" of the starch paste. He describes methods and apparatus by which swell may be measured quickly and easily.

In this study, consistency determinations of dasheen starch paste were made by measuring the time of flow of the paste through a capillary tube. The paste (3.7% starch) was made by mixing an accurately weighed sample of the starch with a definite quantity of cold distilled water. This suspension of starch was poured into hot distilled water kept in motion by a mechanical stirer, and the paste was heated in a boiling water bath for one-half hour. Each flow-test determination was made from a freshly prepared sample of the paste in a buret consistometer, such as Herschel and Bulkley (*3*) describe, at a carefully maintained temperature of 87° C., which is the sizing temperature used in this study. The flow time for 25 c.c. of dasheen starch paste was approximately 50 seconds, while for cornstarch the time was slightly less than 68 seconds. Although the consistency of starch pastes is usually expressed in other terms, a comparison can be obtained from the time of flow of equal quantities of pastes of the one concentration when measured at the same temperature.

Fig. 3. Photomicrograph of cornstarch granules

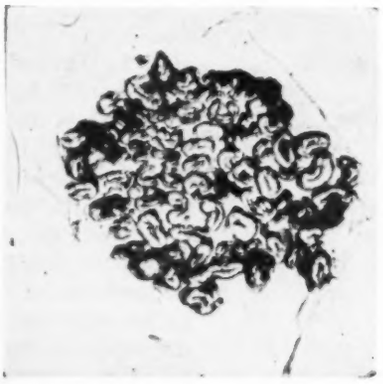


Fig. 4. Cross-section of warp yarn sized with dasheen starch

Fig. 5. Cross-section of warp yarn sized with cornstarch

Penetration of Warp Yarns

To find the amount of penetration in yarns, warp yarns from a desized fabric were raveled out, dipped in distilled water, dried, and immersed in starch paste (87° C.) for 3 min. The excess paste was brushed off without applying pressure, and the yarns were dried under just enough tension to prevent tangling. The yarns were then imbedded in celloidin and paraffin, sectioned, stained with iodine, and mounted in glycerin jelly. Fig. 4 shows a warp yarn sized with dasheen starch. The dark area shows the starch stained with iodine. The lumen of the fibers appear dark, but this is due to shadows and not to stained starch. Dasheen starch, which has a very small swollen granule size, penetrates the yarn thoroughly; on the other hand, cornstarch (Fig. 5), which has a much larger swollen granule, penetrates little and even has a tendency to coat the yarn. When other starches were measured, it was also found that penetration followed the same order as the size of the swollen granule. Therefore penetration—which is influenced by temperature of sizing, concentration of starch paste, twist and construction of the yarn, and viscosity of the paste—seems also to depend in large measure on the size of the swollen starch granules in the paste.

The stiffness that a starch paste produces on a finished fabric is one of its important properties. Stiffness measurements were made on a cotton fabric which had been sized with dasheen paste of 3.7% starch at 87° F. and subsequently stretched on frames to dry. The test (*4*), made in the stiffness tester devised by the Bureau of Home Economics and described in the Sept. 14, 1929 issue of TEXTILE WORLD, consists in finding the deformation at an angle of 45° of a horizontally supported strip of material bending under its own weight. The dasheen-sized fabric is very stiff—much stiffer than one sized with cornstarch. The thorough penetration of the dasheen starch, which cements together the fibers in the yarns of the cloth, doubtless causes this great stiffness in the dasheen-sized fabric. When dasheen pastes of less concentration are used, there is the same firm feeling with the fabric less stiff. The cloth finished with dasheen starch somewhat resembles that finished with rice starch, which has long been considered to excel for fine laundry work. Moreover dasheen starch gives the fabric a satisfactory feel or handle and a smooth linen-like appearance. These desirable properties secured in the finished cloth suggest that dasheen starch may prove valuable both in the mill and in the laundry.

TABLE I. SIZE OF STARCH GRANULES

	Raw Granules				Swollen Granules			
	Length		Width		Length		Width	
Starch	Granules Measured	Average Length	Granules Measured	Average Width	Granules Measured	Average Length	Granules Measured	Average Width
	Number	Microns	Number	Microns	Number	Microns	Number	Microns
Corn.....	65	13.8	65	12.1	75	59.8	75	49.7
Dasheen.	50	4.1	50	3.3	60	9.3	60	7.5

Literature Cited: (1) Alsberg, C. L.; 1926, Studies upon starch, Indus. and Engin. Chem. 18: 190-193; (2) Grimshaw, A. H., 1930, Tensile strength tests of sized and unsized cotton warps, The Melliand Text. Monthly 8: 1050-1056, 1178-1181, illus. (3) Herschel, W. H., and Bulkley, R., 1927, Calibration of the buret consistometer, Indus. and Engin. Chem., 19: 134-139, illus. (4) Peterson, E. C., and Dantzig, T., 1929, Stiffness in fabrics produced and a quantitative method for evaluating stiffness, U. S. Dept. Agr. Tech. Bul. No. 108. (5) Ripperton, J. C., 1931. Measurement of consistency of starch solutions, Ind and Engin. Chem. Anal. Ed. 3: 152-4. (6) Taylor, T. C., and Beckmann, C. O., 1929, The description of the cornstarch granule and its relation to the constituent amyloses, Jour. Amer. Chem. Soc. 51: 294-302. (7) Walton. R. P., 1928. A comprehensive survey of starch chemistry, Illus. New York. (8) Young, R. A., 1924, The dasheen, U. S. Dept. Agr. Farmers' Bul. No. 1396, illus.

Federal Specifications Board Proposes

Textile Test Methods

(Continued)

A PROPOSED method for testing textile materials purchased by the various departments and establishments of the United States Government has been released. Procedures for the determination of moisture content, total sizing and finishing material, and breaking strength were described in the March 12 issue of TEXTILE WORLD. Methods for testing tear resistance, color fastness, and shrinkage follow. Comments on this specification and suggestions as to changes which may be thought desirable should be sent to the Federal Specifications Board, Washington, D. C., prior to April 30, 1932.

IX. *Tear Resistance (Strip Method)*—The testing machine used in determining tear resistance and its operation shall be as given in VII-2. Specimens 8x3 in. shall be taken for test. Two sets of five specimens each are required, one set having the longer dimension parallel to the warp yarns for filling tear resistance, and the other set having the longer dimension parallel to the filling yarns for warp tear resistance. A longitudinal cut 3 in. long starting at the edge shall be made along the center line of each specimen. One of the tongues thus formed shall be clamped in each pair of jaws of the testing machine. The pawl on the pendulum shall be released. The average load necessary to continue the tear after it has been started shall be recorded by means of a suitable autographic recording device on the testing machine. The tear resistance shall be the average of the results obtained by tearing the five specimens. If the tear resistance is too low to be determined by the available machine, two or more specimens may be torn at one time in order to bring the load necessary to continue the tear within the capacity of the machine. The result thus obtained shall be divided by the number of specimens torn.

X. *Weight per Square Yard*—The weight per square yard may be determined by any one of the following methods. In case of dispute, Method No. 1 shall be used as an umpire method, and the measured portion shall be a cut, roll, or bolt.

Method No. 1 is as follows: Weigh a measured portion of the material. Calculate from the area the weight per square yard.

Method No. 2 is as follows: Cut out a specimen measuring exactly 2x2 in., using a steel die. No specimen shall be taken nearer the selvage than one-tenth the width of the material. Weigh on a balance adjusted to read the weight of the material in ounces per square yard or other suitable balance. Average five tests.

XI. Weight per Linear Yard—The weight per linear yard shall be computed from the weight per square yard, as follows:

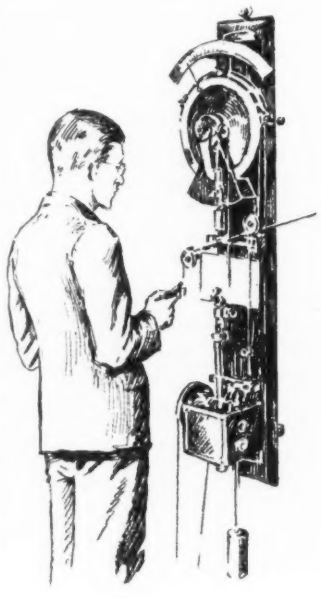
$$\frac{\text{Weight per square yard} \times \text{width in inches}}{36} = \text{weight per linear yard}$$

XII. *Thread Count*—The actual number of warp threads in 1 in. shall be counted at five different places in the cloth, and the results averaged to obtain the warp thread count. If there are fewer than 25 threads per inch, the threads in 3 in. shall be counted at five different places in the cloth and the results averaged and reduced to threads per inch to obtain the warp thread count. When the size of the sample permits, these counts shall be made about 6 in. apart. No warp thread count shall be made nearer the selvage than one-tenth the width, of the cloth. When the width of the cloth is 3 in. or less, all of the warp threads shall be counted and the results calculated to threads per inch. The filling thread count shall be obtained in a similar manner.

XIII. *Width*—The cloth shall be laid out without tension on a flat surface so as to be smooth and free from wrinkles or creases. The distance from edge to edge in a line perpendicular to the selvages shall be measured. The average of five measurements made at different places in the cloth as widely separated as practicable shall be taken to be the width of the cloth.

XIV. *Color Fastness*—

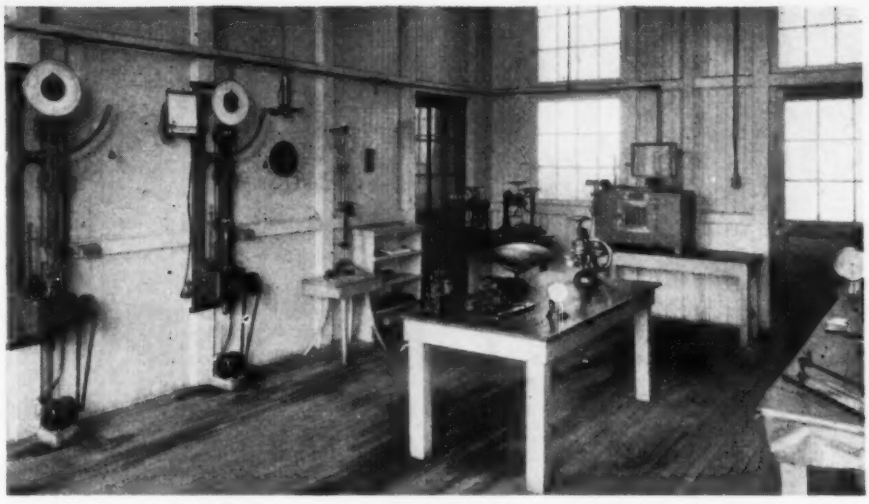
1. General Method of Evaluation—When no standard sample has been established, the tested specimen shall be compared with the original material and rated on the following basis: Good, no appreciable alteration of color; Fair, appreciable but not objectionable alteration of color; Poor, objectionable alteration of color. The judgment of the inspector may be aided by comparison with material from former satisfactory purchases if these are available. Such material shall be tested at the same time and in the same way as the material to be graded.



When a standard sample has been established, specimens from the material to be graded and from the standard shall be tested simultaneously and in the same way and rated in fastness on the following basis: Satisfactory, equal or superior to the standard in fastness. Unsatisfactory, inferior to the standard in fastness.

2. Fastness to light—The fastness to light may be

determined by either one of the following tests: In case of dispute, Test No. 1 shall be used. Test No. 1 is as follows: Expose the specimen for periods of 24 and 48 hr. to the radiation from a glass-enclosed carbon-arc lamp such as the Fade-Ometer, operated on a 200-volt circuit with a power input of approximately 2,700 watts. The specimen shall be 10 in. from the arc, and the lamp shall be so ventilated that the temperature at the specimen does not exceed 149° F. (65° C.). The exposed areas shall measure approximately 1x1½ in. The fading shall be judged by comparison of the exposed areas with adjacent unexposed areas of the specimen. Specimens shall be allowed to lie in the dark at room temperature for 2 hr. after exposure before comparisons are made.



Physical testing room of textile laboratory of the Textile School of N. C. State College, Raleigh, N. C.

Test No. 2 is as follows: Expose the specimens continuously for periods of 12 days and 24 days on a roof or other unprotected place under the following conditions: The specimen shall be placed at an angle of 45° from the horizontal, facing south in a cabinet covered with a good grade of window glass approximately ⅛ in. thick and open at the sides in such a way as to allow free access of air to the specimen. The distance between the specimen and the glass shall be not less than ½ in. The specimen shall not be shaded by the sides of the cabinet.

3. Fastness to weather—Expose specimens of the material continuously for periods of 10, 20, and 30 days at an angle of 45° from the horizontal, facing south, on a roof or other unprotected place. The specimens shall be mounted on a frame so that both sides are open to the air and weather.

4. Fastness to laundering (washing) of cotton—If the material is yarn, a 5-in. length of a braid composed of equal amounts of the yarn and white cotton yarn is taken. If the material is cloth, a piece measuring about 2x5 in. is sewed to a similar piece of white cotton cloth. The specimen thus prepared is placed in a one-pint preserve jar containing 100 c.c. of soap and soda solution at 160° F. (71°C) and 10 rubber balls 1 cm. in diameter, weight approximately 16.7 grams. The soap and soda solution shall contain 0.5% soap (Federal Specification No. 31), and 0.1% sodium carbonate (anhydrous). The jar is agitated for 30 min. at a temperature of 160° F. (71° C.) in a Launder-Ometer or similar machine. The essential features are that the jar shall be placed with its base toward a horizontal shaft and 2 in. from the center of rotation. The shaft shall be rotated at a speed of 40 to 45 r.p.m. The temperature in the jar shall be maintained at ± 2° F. of that specified. The soap and soda solution in the jar is then replaced by 200 c.c. of water at 160° F. and the jar again agitated for 10 min. The water is poured off, the sample is removed, rinsed with a fresh portion of 200 c.c. of water at 160° F., and then with 200 c.c. of a 0.05% acetic acid solution at 80° F. It is finally rinsed with 200 c.c. of water and is hydro-extracted and ironed with a hot iron. The staining of white cotton, as well as the change in color of the colored cotton, shall be taken into consideration in grading fastness to laundering.

5. Fastness to water—Immerse the specimen braided with an equal weight of white yarn or sewed to a piece of white cloth made of the same kind of fiber in distilled water at room temperature for 1 hr. The staining of the white material and the discoloration of the water, as well as the change in color of the specimen, shall be taken into consideration in grading fastness to water.

6. Fastness to salt water and soap—Immerse the specimen, braided with an equal amount of white yarn or sewed to a piece of white cloth made of the same kind of fiber in a solution containing 3% of sodium chloride, ½% of magnesium chloride and 1% of salt-water soap, Federal Specification PS-611 at room temperature for 1 hr. The staining of the white material and the discoloration of the water, as well as the change in color of the specimen, shall be taken into consideration in rating the fastness to salt water.

7. Fastness to crocking—The specimen to be tested is rubbed with an unsized white cotton cloth. The cloth is placed over the index finger and applying considerable pressure the finger is passed ten times over a length of 4 in. on the specimen. Another test is made with cloth moistened with water.

When no standard sample has been established, the tested specimen shall be rated on the following basis: Good, no appreciable staining of the wet white cloth; Fair, appreciable staining of the wet white cloth, but no appreciable staining of dry white cloth; Poor, appreciable staining of the dry white cloth.

XV. *Shrinkage* (*Cotton or Wool Cloth*)—A specimen 1¼ yd. long and the full width of the cloth, is machine stitched across the piece in a straight line ⅛ yd. from each end so that the lines of stitches are exactly 36 in. apart. The width is carefully measured and recorded. If the specimen is cotton, immerse it in boiling water; if wool or part wool, in water at 104° F (40° C), for 15 min. Then immerse in water at room temperature for 15 min. Hydro-extract and air dry, avoiding tension. Dampen slightly with a spray of water and press with a hot iron. The iron is not passed over the cloth with a sliding motion as is customary in hand ironing, but is simply used to press out and smooth the cloth without stretching it. The manner of ironing should simulate the action of a laundry press such as is used in custom laundries. Measure the distance between the stitches and the width of the piece and calculate the warp and filling shrinkages separately. The shrinkage is the change in the dimension expressed as a per cent of the dimension before shrinking.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago will be closed next week and a summary of contributed ideas then given.

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The Super's Qualifications

Editor, Overseers' Round-Table:

PETE, I AM sure you have never worked for a super or manager who knew very little about manufacturing details, as I have found conditions intolerable working under men of this type. One of their greatest faults is that they know so little about the mechanical operations that when there is some inferior merchandise produced they go around swinging the ax. Another fault is that it is so difficult to explain to them some new device or methods, and men of this type do not like to be told.

Do you know, Pete, that the fault with the textile industry today is these men who know so little about the details that it is a known fact that the majority of the help could operate a plant far better than they do? There is nothing more encouraging for an overseer than to be able to go to a super or manager and learn how to overcome some of the difficulties that we all have. And a super or manager who knows every detail will be glad to help. JOHN PICONE.

Editor, Overseers' Round-Table:

SUCCESSFUL MANAGEMENT does not depend so much on knowledge of details of manufacture as it does on personality, leadership and organization.

A better illustration could not be found than the case of Mr. Lloyd George acting as Minister of Munitions in this country during the tragic shortage of munitions in the early stages of the war.

England was caught quite unprepared for the task of providing munitions for so large an army, whilst those of the opposing forces seemed inexhaustible. The army was appealing for more shells and guns, and the people of London and the coast towns, who were suffering terribly from air raids, were begging for anti-aircraft guns and defense airplanes. Women were demanding the right to go and work in the arsenals, but the unions were obdurate. Work was held up because one branch of the mechanical trade said that some particular operation should be done by them and the other section were just as determined that the work should be done by them.

In the midst of this turmoil, the announcement was made that a new office would be created called the Ministry of Munitions and that David Lloyd George would be at the head. The people were aware that Lloyd George knew not one single detail of how to make shells or guns, but they knew he had wonderful leadership and organizing ability, and therefore confidence was restored.

Although he had no technical knowledge, Lloyd George soon had the munition factories running briskly, women

Youth Versus Ex

"EVERY so often," said Superintendent Chase, "I hear of an overseer with 20 or more years of experience being let out of a job and replaced by a younger man. Some of the old-timers have told me of cases where this has happened and the quality of the mill's product has gone down badly, and a lot of discontent and trouble caused. On the other hand, I have had some of the younger men cite me cases where new blood has stepped things up to such an extent that the mill is far better off than it was with the old-timers at the wheel. I wonder if you men have ideas of the relative value of the experience of age and the enthusiasm of youth."

"I have pretty decided ideas on the subject," Bill spoke up. "Some of my old friends have been among those who have had to look for another job just because some super or manager got hipped with the idea that what the company needed was new blood to jazz things up. And I know of plenty of cases where these young fellows who were going to set the world on fire made a mess of things. Particularly in the textile industry where so many things aren't reduced to an exact science, nothing can take the place of experience. All the enthusiasm and ambition in the world can't make up for real knowledge of what you are doing. It makes me laugh the way the youngsters think that anyone who has been on the job 20 years is just naturally solid bone above the ears. Just because the old-timers don't rush around like a chicken with its head cut off doesn't mean that they aren't thinking and working things out on the solid basis of experience. What the textile industry needs is more careful, experienced men and not a lot of youngsters rushing around making mistakes in the hope that some day something will turn out right."

"I," said Pete, "agree with Bill to the extent that experience is valuable. However, a man has to use his experience right. He has to keep his mind young and use his experience as a help to better things. Unfortunately, a lot of overseers think they have had so much experience that nothing new

Experience

can be shown them and they are just in a rut. One of the advantages of a young man is that often he doesn't know that a thing can't be done—so he goes ahead and does it. For many years textile mills didn't change much and overseers just did everything as years of experience had taught them. There wasn't much need or incentive for new ways. Now, however, things are different. Everyone has to be on his toes to cut costs in this or that way. As I said before, it is unfortunate that many of the old overseers haven't moved with the times and they protest and try to black-jack every new idea. Youngsters may make mistakes, but they are certainly going ahead and learning fast and making everyone sit up. I am glad to say that many of the old-timers are young in spirit and have a progressive outlook and they are particularly valuable because they also have experience. However, my idea is that experience has been over-rated in the textile industry and I'll place my bet any day on the younger man with a keen mind and ambition against the old-timer who has little but years of experience to offer."

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Do *you* believe that it is wise to replace experienced men with younger men who appear to have more push and ambition?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

doing "their bit" and the unions working harmoniously together.

Possibly some may say that running the munition manufactures of the nation might be alright, but he could not have successfully managed an individual factory. I know of a gage-making firm which probably manufactures the most accurate tools procurable in England, some of their products being guaranteed to 0.00001 of an in. That factory was successfully managed during the war by a college professor with no previous factory experience.

A. I. Cook, England.

Editor, Overseers' Round-Table:

The man who finds himself superintendent or manager of a mill or other large industrial organization naturally knows something of the technical end of the business. He may not be a specialist in carding or spinning or weaving, but he is a specialist in his line which covers the general principles of every department, and his viewpoint, not only of these departments, but on business generally, is broader and his knowledge covers a wider field.

Therefore, as an overseer, I would much prefer working under a man with this broader field or knowledge although he knew much less than I about the actual technicalities of my individual department.

I have worked under both kinds, and as a rule the one with the broader knowledge would grasp the substance of the problem as quickly if not quicker than the strictly technical man, and he knew "pronto" whether or not it was economically right. If right, then it was up to me to prove my contentions (he didn't try to tell me how to set the machines to do this; he probably didn't know, but he knew I knew) and you can bet your bottom dollar he knew from the result if I had proved it. "Interested Reader."

Putting the Boy to Work

Editor, Overseers' Round-Table:

I agree with Pete in believing that in many instances it is a mistake for a man to place his boy either with the same company for which he is working or in the organization of a friend. If he has the real stuff, he will frequently gain more rapid promotion on his own than he will by staying with the company which his father is serving or working for some friend of his father's.

I believe that the home plant is not unlike the average parent in that it is slow to realize that the boy is grown up and ready for responsibility. In some outside plant the young man is regarded as Mr. "So and So" with technical training in textiles, whereas in his home town he's "Jim's boy who has been away at school."

A boy's initiative and sense of responsibility are not developed by placing him in a secure position where he can turn to Dad, or Dad's friend, for help the moment some question arises. If he has ability he does not need Dad's coddling; if he does not have ability, Dad cannot do much for him in the long run anyhow. Like Bill, I want to help my boy to "get ahead." However, we disagree as to what constitutes real help. When my boy has proved himself able to stand on his own feet in an outside organization, I shall be ready to push him in the home plant.

H. H. Willis.

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Summary of Discussion on The Boss Himself

Approximately 57% of the contributors stated that they preferred to work under a super or manager who knew all the manufacturing details thoroughly. It was the belief of this group that such a man was more inclined to listen to suggestions from his subordinates, to discuss problems intelligently, and to place blame where it fairly belonged. The 43% who voted in favor of a super or manager with broad business training, but without intimate knowledge of details, stated that the general business man had a broader outlook and in not trying to impose his own ideas gave the overseers more latitude to develop improvements.

President Hoover, Secretary Lamont, Consider Silk Industry's Problems

COOPERATION of President Hoover and his administration in the efforts now being made to solve the critical problems facing the American silk industry, was promised personally by the President on March 24, when he was interviewed at the White House by Jacob Widder, chairman of the ways and means committee of the Broad Silk Division of the Silk Association of America. Secretary Lamont of the Department of Commerce also was present at the meeting and both the President and Mr. Lamont expressed their readiness to do everything possible to help the silk industry out of its present dilemma.

The President showed intimate knowledge of the various aspects of the problem, and his first suggestion was that the silk industry study the progress made by the cotton weavers, through the Cotton-Textile Institute, toward production curtailment and control. The President, Mr. Widder said, indicated that he would favor a curtailment program for the silk industry, and such other organized effort as might be necessary, provided there was no attempt to fix or regulate prices.

On his return to New York this week, Mr. Widder immediately began making plans along the line suggested by the President. It is understood the program may include meetings of silk manufacturers with Secretary Lamont. The method by which the Cotton-Textile Institute was so effective in reducing cotton goods surplus will be studied. Mr. Widder said that it is possible this plan may prove ideal for application to the silk trade, or that it may be available subject to some changes.

Mr. Widder's interview with President Hoover and Secretary Lamont, scheduled for fifteen minutes, proved so interesting to the Chief Executive that it was prolonged to nearly double that time. Mr. Widder's presentation covered many points, chief among them being: the possibility of Federal legislation to eliminate night work in silk mills, which the President and Mr. Lamont indicated they could not consider; and various other silk industry problems such as overproduction, greige goods evil, returned goods, price fluctuations, and design piracy.

Mr. Widder then cited a program of possible remedies which includes numerous ideas of broad significance to the silk industry. These suggestions were the outcome of a study of the silk industry conducted by Mr. Widder as chairman of the ways and means committee of the Broadsilk Division of the Silk Association, and presented at a meeting of that Division in New York last month. The program has been submitted to the broadsilk trade as a whole for comments and suggestions, and the ways and means committee now is awaiting the reaction of the trade.

Mr. Widder submitted substantially the same program at the Broadsilk Division meeting and at his conference with President Hoover and Mr. Lamont. This program embodies many striking suggestions. As a solution to the overproduction problem which is perhaps the most vexing issue of all and which has precipitated ruthless price-cutting and dumping, his main suggestions were: agreement to produce on order only; elimination of night work; creation of fund to buy up and destroy surplus and obsolete loomage; regular dissemination of statistics on probable demand; and a style survey.

To ameliorate the greige goods evil now besetting small converters, he proposes: keep production within safe bounds; uniform short terms, net 10 days or net 10 E.O.M. for full calendar month; all purchases to be made against contract—all contracts to be enforced and no very small lots to be sold unless on advanced price; raw and thrown silk dealers to sell legitimate manufacturers only—who own and operate looms (only 10% raw and thrown silk is bought by small converters); no raw and thrown silk dealer should have surplus woven up to compete with manufacturer he sells to.

The solution to the claims and return goods problem, he asserts, lies in enforcement of the Silk Association's Finished Goods Rules, P. 7, rule 4, and he further suggests that the trade deny all claims on manufactured dresses except for latent defects. He also proposes a clearing house for distress merchandise and the creation of a price exchange to aid stabilization of prices.

Possibly the most significant proposal made is for a "head or leader or dictator" for the entire industry. This man, he suggests, should be one who understands figures, manufacturing and selling, and able "to enforce impartially the rules and regulations we adopt for the betterment of the industry." The dictorship idea is being much discussed in the industry, since Thomas B. Hill suggested it in his retirement address as president of the Silk Association two weeks ago.

Last but not least, Mr. Widder proposed creation of a subsidiary organization to the Silk Association to which body each plant owner would pledge his plant at the value of perhaps $10.00 per loom; generally speaking, the function of this organization would be to act as an instrument through which remedial policies could be enforced.

Increase in Reservations For Southern Textile Show

APPROXIMATELY 80% of available space at the 10th Southern Textile Exposition has been reserved, according to announcement from the headquarters of Textile Hall Corp., Greenville, S. C. The management of the exposition expects a larger attendance of executives of cotton, silk, rayon and wool mills, and dyeing, bleaching and finishing establishments, than at any previous show.

Indications are that an unusually large number of advancements and refinements in textile mill equipment will be exhibited. Preparations are being made for the comfort and convenience of both exhibitors and buyers.

The following exhibitors have already signed contracts for space at the show which will be held during the week beginning Oct. 17:

Abbott Machine Co.; Aldrich Machine Works; Allis-Chalmers Mfg. Co.; Aluminum Co. of America; American Enka Corp.; American Hard Rubber Co.; American Moistening Co.; *American Wool & Cotton Reporter;* Armstrong Cork Co.; Armstrong Machine Works; Ashworth Bros., Inc.; Bahnson Co.; Barber-Colman Co.; Chas. Bond Co.; Bristol Co.; David Brown Co.; H. W. Butterworth & Sons Co.; Celanese Corp. of America; Cling-Surface Co.; Clinton Corn Starch Refining Co.; Clipper Belt Lacer Co.; Continental-Diamond Fibre Co.; Corn Products Refining Co.; *Cotton;* Crane Co.; Crompton & Knowles Loom Works; Crouse-Hinds Co.; Curtin-Howe Corp.; Curtis & Marble Machine Co.

Detroit Graphite Co.; Draper Corp.; DuPont Paint Co.; DuPont Rayon Co.; Durant Mfg. Co.; Duriron Co.; Eclipse Textile Devices, Inc.; Economy Engineering Co.; Fibre Specialty Mfg. Co.; Finnell System, Inc.; Fisher Governor Co.; General Electric Co.; General Electric Vapor Lamp Co.; Gilman Paint & Varnish Co.; Graton & Knight Co.; Hires Turner Glass Co.; H. & B. American Machine Co.; E. F. Houghton & Co.; Howard Bros. Mfg. Co.; Huntington & Guerry, Inc.; Hyatt Roller Bearing Co.; International Nickel Co., Inc.; Jenkins Bros.; Johns-Manville Corp.; Keever Starch Co.

A. C. Lawrence Leather Co.; Thomas Leyland Machinery Co.; Manhattan Rubber Mfg. Div.; *Manufacturers Record;* Mathieson Alkali Works; *Melliand Textile Monthly;* Merrow Machine Co.; New Orleans Corrugated Box Co.; N. Y. & N. J. Lubricant Co.; Parks-Cramer Co.; Penick & Ford Sales Co.; Permutit Co.; Philadelphia Drying Machinery Co.; Quaker City Chemical Co.; *Rayon;* Reeves Pulley Co.; R. I. Warp Stop Equipment Co.; Roessler & Hasslacher Chemical Co.

Saco-Lowell Shops; Sherwin-Williams Co.; Signode Steel Strapping Co.; J. E. Sirrine & Co.; S K F Industries, Inc.; *Southern Textile Bulletin;* Steel Heddle Mfg. Co.; Stein, Hall & Co., Inc.; C. J. Tagliabue Mfg. Co.; W. O. & M. W. Talcott, Inc.; Taylor Instrument Cos.; Terrell Machine Co.; Texas Co.; Textile Finishing Machinery Co.; TEXTILE WORLD;

U. S. Ring Traveler Co.; Universal Winding Co.; Veeder-Root, Inc.; Viscose Co.; Westinghouse Electric & Mfg. Co.; Whitin Machine Works, Whitinsville Spinning Ring Co.

▸ Courtauld Sees Rayon Improving

Conditions in the rayon industry in Great Britain, the United States, and elsewhere were analyzed by Samuel Courtauld, of Courtaulds Ltd., at the firm's annual meeting in London. Mr. Courtauld said that the English side of the business was working much below capacity in 1931, but, following the change over from the gold standard in September, production was vastly increased and their English mills were again earning a profit.

"They are now within measurable distance of full production, and if present sales can be maintained we shall be well satisfied with the existing range of prices," he added. "In the United States, the first half of the year had been a period of optimism. Sales grew and stocks fell, but this led to too rapid an increase of production, followed by price cutting and market demoralization. In the autumn production was curtailed and prices stabilized, with the result that now the industry in the States, was working considerably below its maximum capacity, and was selling at prices which should yield a small margin of profit."

▸ Railroads Supported By Riverside Mills

An educational campaign to emphasize the importance of shipping by rail has been instituted by the Riverside Mills, of Augusta, Ga. This publicity, furnishing an interesting example of one industry extending a friendly hand to another, is taking the form of bulletins mailed to the trade. The early steps in this campaign were described on page 40 of TEXTILE WORLD, Dec. 19, 1931.

Thomas M. Anderson, sales manager of Riverside Mills, states that about 40,000 bulletins discussing the traffic situation confronting the railroads have been mailed out. One of these bulletins carried the following message:

"Realizing that the situation of the railroads requires definite action and cooperation on the part of manufactures, shippers and distributors, as well as the entire citizenship to the end that more traffic be diverted *to the railroads*, we appeal to you to: STOP, LOOK, LISTEN and—THINK!

"The time has come when railroads must have the support of all shipping interests and assistance in curbing the Wolves of Trucks, Busses and Legislation that confront railroads, and unless some whole-hearted movement is brought about and restrictive legislation enacted governing the situation, all business is headed for something serious. . . . There is no reason why transportation by trucks and busses should not be regulated the same as railroads."

Letters to the Editor

Full-Fashioned Hosiery Job Survey

Philadelphia, Pa.

Editor, TEXTILE WORLD:

On page 42 of the Feb. 13 issue of TEXTILE WORLD I noticed an article on "Full-Fashioned Hosiery Job Survey Shows Employment Bureau Need," which is the opinion of the Department of Industrial Research of the Wharton School of Finance and Commerce, University of Pennsylvania, and whereas they recommend the organization of a special employment bureau for the full-fashioned hosiery industry alone and it being announced by Dr. Joseph H. Willits, director of the department, calling attention to the fact that the department sent out questionnaires and interviewed more than 4,000 workers and 61 mill executives.

Further stating in his announcement that cooperation was received from the American Federation of Full-Fashioned Hosiery Workers, the Philadelphia Textile Manufacturers' Association, the Philadelphia Metal Manufacturers' Association, the Junior Employment Service of the Board of Public Eduction, and the Research Department of the Federal Reserve Bank in the Philadelphia district. Adding in his statement that 58% of the workers in the full-fashioned hosiery industry obtained their positions through friends, and that 22% obtained their positions by direct application to the factories and that only a little better than 2% used employment bureaus.

In answer to Dr. Willits' announcement wish to state that, of the number of full-fashioned hosiery mills in Philadelphia when operating to 75% of their production would employ better than 30,000 people, therefore, referring to the 4,000 workers who had received questionnaires as well as been interviewed would only be a small percent.

Through the employment bureau of the Philadelphia Textile Manufacturers' Association 60% of the full-fashioned hosiery mills that are members use the service of the employment bureau of the association in obtaining their help and the percentage of help employed by the 60% of the mills is considerably more than 2% referred to.

Therefore, as to the number of mills that may take advantage of Dr. Willits' suggestion would be approximately 51, which would include in that number mills in Milwaukee, Clifton, N. J., Hawthorne, N. J., Paterson, N. J., Brooklyn, N. Y., Langhorne, Pa., Washington, N. J., and North Hampton, Mass., and whereas under the late law which prevents employing people in the State of Pennsylvania for the purpose of sending them out of the state before registering before the Secretary of the Department of Labor, as well as specifiying as to what capacity these people are employed in would not be an advantage of establishing a special employment bureau such as suggested in Dr. Willits' article.

The law that I referred to is a new employment measure, which became effective Oct. 1, 1931, Harrisburg, Pa.: "Strict supervision of foreign employment agents taking labor out of Pennsylvania is prescribed by an act of the last session of the General Assembly which became effective Oct. 1, and provides penalties for violations. The Department of Labor and Industry is charged with the enforcement of the act. It is estimated that about 10,000 such foreign agents have operated in Pennsylvania without regulation before the present act was passed and the department is serving notice on these agents that enforcement will be thorough. One section of the act follows:

"'No foreign employment agent, or other person, shall enter this Commonwealth and attempt to hire, induce, or take from this Commonwealth any labor, singly or in groups, for any purpose, without first filing, in the office of the secretary (Department of Labor and Industry), a statement as to where the labor is to be taken, for what purpose, for what length of time, and whether transportation is to be paid to and from destination, if temporary, also a statement of the financial standing of the company desiring the labor, and an affidavit of authority to represent such company in this Commonwealth, and whatever other information the secretary may require.'"

The number of full-fashioned hosiery mills in the Philadelphia area, taking a radius of 30 miles, is 116 mills. Eighty per cent of these mills are operating on an open shop and non-union shop policy. In some instances, the individual manufacturer has his own personnel department; however, the records of the employment bureau of the Philadelphia Textile Manufacturers' Association show applicants registered that have been employed in practically every one of the mills as to the total amount aforesaid mentioned.

C. MARLIN BELL, Gen. Mgr.
Philadelphia Textile Mfrs. Assn.

▸ Give Preference to Unemployed

ALBANY, N. Y.

Editor, TEXTILE WORLD:

At this time there is a great number of textile workers idle, workers who through no fault of their own are forced to remain idle.

To help remove some of this situation, I would like to suggest, that whenever a mill should need additional help, they will, whenever all things are equal, give some unemployed person in preference.

Of course I know we are all trying to get a bit higher, but at such times as these, I think we should consider others as well as ourselves.

ELWOOD WARD.

NEWS about MEN

George P. Entwistle has been elected president of the Entwistle Mfg. Co., Rockingham, N. C., to succeed his father William Entwistle, who died Feb. 25. Mr. Entwistle is president and treasurer of Pee Dee Mills, Rockingham, N. C. **William H. Entwistle,** grandson of the former president, has been elected vice-president of the Entwistle group at Rockingham. He continues as general manager.

Ernest C. T. Bick and Mrs. Bick left March 25 for an extended trip through the South. Mr. Bick is president of Bick & Co., Inc., Reading, Pa., dyers and bleachers.

J. H. Adams, president of Adams-Millis Corp., and **E. W. Freeze,** treasurer of Commonwealth Hosiery Mills, were elected to the board of directors of the High Point (N. C.) Chamber of Commerce, at the annual meeting.

Fred Guerrant, who recently purchased a controlling interest in the Fidelity Hosiery Mills Co., Newton, N. C., has given up his connection with Stimpston Hosiery Mills, Inc., Statesville, N. C., as secretary. Mr. Guerrant is now president of the Fidelity company. He was formerly secretary-treasurer.

George W. Bord, G. A. Efroymson, Clement Studebaker, Jr., and **Howard E. Blood,** have been elected directors of Real Silk Hosiery Co., Indianapolis, Ind. **J. A. Goodman, P. M. Farrell, L. L. Goodman, John Fletcher** and **J. L. Mueller** were re-elected directors.

J. H. McEwen, president of Holt Bros Knitting Co., Inc., **R. H. Whitehead,** secretary-treasurer of the Whitehead Hosiery Mills, Inc., and **R. W. Barnwell,** secretary of the Stevens Manufacturing Co., all of Burlington, N. C., have been elected directors of the Burlington Chamber of Commerce.

Arthur B. Van Gelder, of the Van Gelder Yarn Co., Inc., New York, has been visiting **Milton Ensor,** manager of the Wilbur Cotton Mills, Inc., Troy, N. C., of which company Mr. Van Gelder is president.

John H. Vogt, president of Nolde & Horst Co., Reading, Pa., has become vice-president of Westminster, Ltd., old New York firm of distributors and importers. **Hans W. Nolde,** secretary-treasurer of Nolde & Horst has become treasurer; and **William H. Gosch,** vice-president, of Nolde & Horst, will be vice-president of the Westminster company. **William Sirota,** present president of Westminster, remains as head of the firm.

Brown Mahon, who has left Judson Mills

R. R. Ray, treasurer, McAden Mills, McAdenville, N. C., celebrated his 80th birthday on March 23 with an informal dinner at which several of his business associates and fellow manufacturers were guests. Mr. Ray has been treasurer of McAden Mills since 1886.

C. W. Causey, treasurer of the Pomona Mills, Inc., Greensboro, N. C., is one of the incorporators of the Pomona Store Co., chartered to do a general mercantile business in the mill village.

Brown Mahon has resigned as vice-president and assistant treasurer of Judson Mills, Greenville, S. C. Mr. Mahon has been connected with the company since 1914 and was elected vice-president in 1920, at that time being perhaps the youngest vice-president of a cotton mill in the country.

T. T. Lucas, who was manager of Pinehurst Silk Mills, Hemp, N. C., and more recently was connected with Dunean Mills, Greenville, S. C., has become assistant to **K. S. Tanner,** president, Stonecutter Mills Co., and treasurer of Spencer Corp., Spindale, N. C. Mr. Lucas will devote his time to manufacturing activities in the plants of these two companies, which produce fine cotton goods and rayon fabrics, as well as mixtures of the two.

W. V. Boyd, for many years manager of the Canada, Stormont and Dundas mills of Canadian Cottons, Ltd., Cornwall, Ont., has been appointed assistant general manager at the head office of the company at Montreal.

Victor Bowman, with Pacific Mills as sales manager for the last five years, has tendered his resignation to become effective at an early date.

Walter H. Paige, retiring agent of the York Mfg. Co., Saco, Me., was the guest at a farewell dinner given in his honor last week. Among those present was **Arthur Tousignant,** the new agent. Mr. Paige has not made public his plans for the future.

William O. Buzzell, who was agent of Wamsutta Mills, New Bedford, Mass., is now assistant treasurer of the Potomska Mills Corp., New Bedford, Mass.

Dr. William Hale Church, associate chemical director of DuPont Cellophane Co., Inc., Tonawanda, N. Y., will receive the Jacob Schoellkopf gold medal for 1932, for his contributions to cellulose chemistry. The award is in recognition of "accomplishment constituting a major advance in science and embodying the spirit of research in industry." The medal provided by Jacob Schoellkopf, Sr., is awarded each year by the western New York section of the American Chemical Society.

Textile Calendar

Cotton Manufacturers' Association of Georgia, 32nd Annual Convention, Atlanta-Biltmore Hotel, Atlanta, Ga., April 5 and 6, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

North Carolina State College, Annual Exhibition and Style Show, Raleigh, N. C., April 15, 1932.

Southern Textile Association, Eastern Carolina Division, Spring Meeting, N. C. State College, Raleigh, N. C., April 15, 1932.

Southern Textile Association, South Carolina Group, Organization Meeting; Carding Discussion, Columbia, S. C., April 22, 1932.

Southeastern Section of American Association of Textile Chemists and Colorists, spring meeting, Auburn, Ala., April 30, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May.

Second National Cotton Week, May 16 to 21, 1932.

American Cotton Manufacturers Association, annual convention, Atlanta-Biltmore Hotel, Atlanta, May 20-21, 1932.

National Association of Woolen and Worsted Overseers, semi-annual meeting, Rocky Point, R. I., May 21, 1932.

Southern Textile Assn., annual meeting, Hendersonville, N. C. June 24-25.

Southern Textile Exposition, Textile Hall, Greenwich, S. C., Oct. 17 to 23, 1932.

D. C. Hartman, superintendent of dyeing at Louisville (Ky.) Textiles, Inc., spoke March 23 to the Louisville section of the American Chemical Society, at the University of Louisville. His subject was "A Brief Resume of Textile Chemistry," an explanation of types of dyestuffs used in modern dyeing and experiences in their use.

Howard R. Hart, former superintendent of the Victory Mfg. Co., Fayetteville, N. C., has accepted a similar position with the Durham Cotton Mfg. Co., East Durham, N. C.

Vernon C. Faunce, superintendent of the Bates Mfg. Co., Lewiston, Me., since 1926, has resigned. He went to Lewiston from West Warren, Mass. The vacancy will not be filled at present.

Leonard Meisner, for many years production and merchandise manager for the McCallum Hosiery Co., Northampton, Mass., has assumed his new duties with the Hoover Hosiery Co., Concord, N. C.

Frederick W. Wakefield, credit manager for Cheney Bros., New York, and So. Manchester, Conn., for 25 years, has resigned, and will take a vacation before announcing future plans.

J. P. Garrison, who graduated from the North Carolina Textile School last June, has been made designer at the Pilot Mills, Raleigh, N. C.

James Eastward, overseer of scouring, carding, and combing, in the worsted department of the Lorraine Mfg. Co., Pawtucket, R. I., has accepted a similar position at the Ayer Mill, of the American Woolen Co., Lawrence, Mass. He succeeds Mr. Hughes who died recently.

B. W. Thompson made an airplane. (See column at right)

R. M. Ross, superintendent of the carding department at Clyde Fabrics, Inc., Newton, N. C., has been appointed superintendent also, of the spinning division of the plant.

A. S. Griffin, formerly of Roanoke, Ala., has become general overseer of spinning, spooling and twisting at the Cherry Cotton Mills, Florence, Ala.

Alexander Tainsh, formerly of Providence, is the new dyer at Aetna Mills, Watertown, Mass.

W. T. Brown, overseer of weaving at the Nokomis Cotton Mills, Lexington, N. C., has resigned.

B. W. Thompson, master mechanic at the China Grove (N. C.) Cotton Mills Co., built an airplane in 1,200 hours, spare time for eight months, out of many Carolina raw materials. Wing fabric came from a North Carolina mill; rib binding made at Shelby, N. C.; sewing threads for the covering were made at his own plant. Materials cost $300, motor and propeller $325. The plane: span, 25 ft.; chord, 4½ ft.; length, 17 ft.; height, 5 ft. 3 in.; tires, 4x16 in.; 30 hp. motor. Results: cruising speed 75 miles per hour; top speed 90 miles per hour; landing speed 28 miles per hour; gets off in 100 ft., climbs 600 ft. per minute, lands in a 100 ft. circle. Gasoline capacity 5 gals., cruising radius 175 miles. These facts are based on actual test. Mr. Thompson soloed after 7 hours of dual instruction.

Everett M. Cushman, formerly with the Holmes Mfg. Co., New Bedford, Mass., is now overseer of carding at the Judson Mills, Greenville, S. C.

A. E. Barneycastle, former overseer of spinning at the Sellers Mfg. Co., Saxapahaw, N. C., is now overseer of carding and combing at the Eno Cotton Mills, Hillsboro, N. C.

John L. Mathes has resigned as card grinder at the Monarch Mills, Lockhart, S. C., to become night overseer of carding at the Clinton (S. C.) Cotton Mills.

R. H. Hinson, formerly with the Goodyear Clearwater Mills, Atco, Ga., has become second-hand in spinning, twisting and winding at the Washington Mfg. Co., Tenille, Ga.

Kenny McLean is now overseer of the weave room at the Hannah Pickett Mills, Plant No. 2, Rockingham, N. C.

Obituary

John G. Mohn

John G. Mohn, aged 85, president of Mohn Bros. Co., makers of wool hats at Reading, Pa., died March 27, at his home. Mr. Mohn served in the Civil War and upon returning became an apprentice to the trade of hatter. In 1871 he and his brothers, William, Jeremiah, and Richard, formed a partnership and started the manufacture of hats. The death of William Mohn caused a reorganization in 1875. During Mr. Mohn's career the various plants of the company were burned to the ground on three separate occasions. After the last time in 1899 a new building was erected and the finest machinery obtainable installed. In 1905 a large addition to the plant was made. Mr. Mohn was a Mason for 55 years, a member of the Presbyterian Church, and very active in the Y.M.C.A. He was also president of Washington Library for some time and a member of many clubs. Mrs. Mohn died in 1912. He is survived by two grandchildren, Mrs. Lerch and John D. Mohn, and seven great-grandchildren.

Sir William Priestley

Sir William Priestley, chairman of the board of Priestley's, Ltd., dress goods manufacturers, Bradford, England, died March 25, in Bradford. Sir William, who was well known in American textile circles, was born April 12, 1859. At the age of 16 he left school to enter his father's mill and became a partner in the concern at 21. He was chairman of the technical instruction committee of Bradford Technical College from its inception, until the college was taken over by a corporation. This committee did valuable work for more than 40 years. Sir William was also active in political affairs, serving as Member of Parliament from East Bradford from 1906 to 1918. He was mayor of Bradford, 1904-5; magistrate for City of Bradford, since 1894; city councillor for premier ward, 1895-1903, when he was elected alderman; member of the executive committee of the National Liberal Federation, 1901-3.

Perry S. Newell

Perry S. Newell, who died March 23, as reported in these columns, was buried at Little Falls, N. Y., March 26. Mr. Newell retired in January as secretary of the Association of Cotton Textile Merchants of New York and as secretary-treasurer of the Textile Export Association, because of ill health. He accepted the post after his overseas' service with the 27th Artillery Division, in which he was a captain. He was operated on March 15 in a Syracuse hospital and was on the road to recovery when pneumonia set in and he died suddenly. He was associated with the merchants' association for twelve years and was widely known in the cotton goods industry. He was a bachelor. An aunt and uncle survive in Little Falls.

Robert A. Cochran

Robert A. Cochran, aged 75, who retired 12 years ago as president of January & Wood Co., Maysville, Ky., died March 24, following a long illness. Mr. Cochran, prominent in utility operations for a number of years, dropped those connections about the same time. He was a brother of Federal Judge A. M. J. Cochran, Maysville. He is survived by two children: Mrs. Reed Kirk and John P. Cochran, Cleveland.

Charles R. Brown

Charles R. Brown, manager of the St. John's (N. B.) branch of Belding-Corticelli, Ltd., for 25 years, died recently. He was born in Concord, Mass, in 1857. He started out with the Noratuck Silk Co., Florence, Mass., and went to Canada in 1889.

NEWS about MILLS

Cotton

Russell Mfg. Co., Middletown, Conn., will discontinue manufacture of suspenders and other elastic products and will produce the elastic web only. This will include boxed webbing exclusively for the wholesale trade. Finished goods in process and materials for the discontinued lines have been sold to the Makegood Mfg. Co., and the Phoenix Suspender Co., both of New York. Names, goodwill and tangible assets are included with the product.

***Naumkeag Steam Cotton Co.**, Salem, Mass., will not move its **Danvers Bleachery** from Peabody, Mass. Plans for enlarging the bleachery this year have been abandoned.

Westport Mfg. Co., Westport Factory, Mass., closed April 1. Exact date of reopening is unknown.

International Lace Co., Gouverneur, N. Y., has completed installation of a new electric sprinkler system.

Erwin Cotton Mills Co., Cooleemee, N. C., has adopted a full time production schedule at its local No. 3 mill, following short-time operations for a number of weeks, and will adhere to new basis for an indefinite period. The plant gives employment to about 700 workers.

Gastonia (N. C.) Weaving Co. has increased production at its mill and is now operating more looms than at any time for the last 16 months. Additions have been made to the working quota.

Cannon Mills, Kannapolis, N. C., have adopted a full-time double-shift working basis, with employment of over 7,000 persons in all departments.

Clinchfield Mfg. Co. plant No. 1, Marion, N. C., has been completely electrified, according to T. H. Henderson, superintendent. The mill has been heretofore operated directly by steam power. Both plants make wide print cloths. More than 700 operatives are employed, working in day and night shifts.

Alba Twine Mills, Inc., Stanley, N. C., have purchased some looms from the Gaston County Dyeing Machinery Co., Gastonia, N. C.

Manville Jenckes Co., Pawtucket, R. I. The main office, now at Pawtucket, will be transferred to Manville, where all production will now be centered. Pawtucket activity, where the mills of the old **Jenckes Spinning Co.** are located, will cease. The Manville plant is now going at about 50% capacity. Some of the machinery at Manville will be replaced by that at Pawtucket; other machinery will be sent from Pawtucket to mills in the South, and the rest will be sold or discarded. The same action was taken a few months ago in connection with the **Social Mill** at Woonsocket, R. I., and that mill is nearly razed. The **Globe Mill**, at Woonsocket, has been closed for some time. The Manville plant will be the only Rhode Island mill of the company in operation unless the Globe mill is opened. When the present company was formed, the Pawtucket units were working, and the Social, Globe and Nourse Mills in Woonsocket were working, as well as the Bernon Mills, Georgiaville, R. I. The **Nourse Mill** is now operated by the **Woonsocket Rayon Co.**, a subsidiary of Manville-Jenckes. The company also has mills at Gastonia and High Shoals, N. C.

*Indicates previous mention of project.

***Gluck Mills**, Anderson, S. C. Contract for 12 four-room employees' houses has been let and some of them are well under way.

Jackson Mills, Iva, S. C. Mill No. 1 is having spooling and warping equipment replaced with sufficient Barber-Colman machinery to handle entire output.

Lancaster (S. C.) Cotton Mills have had plans drawn by Robert & Co., Atlanta, for a one story brick building, 42x120 ft., with basement; it will have structural steel beams, tar and gravel roof, and will be equipped with a sprinkler system.

Ware Shoals (S. C.) Mfg. Co. Four printing machines are being installed in recently completed building. The company is employing approximately 500 in its cutting-up division, and about 2,000 in other departments of the mill.

Tellico Cotton Mills, Inc., Tellico Plains, Tenn., of which company Ely R. Callaway, La Grange, Ga., is president, J. O. Blackmon, vice-president, and Fuller E. Calloway, Jr., treasurer, have been closed.

Wool

Glen Woolen Mills, Inc., Norwich, Conn., have closed to make repairs having had a fire recently in their carding department.

Penobscot Woolen Co., Camden, Me., has resumed operations after a period of inactivity. It is understood that a white polo cloth is to be manufactured.

***Thorndike Co.**, West Warren, Mass., plant, including mill, community building and water power franchise to Lake Wickaboag in West Brookfield, has been sold to the West Warren Realty Corp., 1 Federal St., Boston, Mass. Property is valued at $1,000,000. Machinery was not included. The Thorndike company operated as a woolen mill until one year ago.

Gilkey Homespun Weavers, Inc., Marion, N. C., is now operating a hand woven rug department, producing approximately 300 rugs daily, sold through large department store chains and wholesale merchants.

Cleveland (Ohio) Worsted Mills Co. is running on a day and night schedule, with about 200 looms in service.

Merz Worsted Mills, Philadelphia. Melville Boyd, Affiliated Merchants Protective Association, Inc., New York, trustee in bankruptcy, will hold a sale of real estate and machinery of the plant at Indiana Ave. and A St., at 11 a.m., April 4. Real estate includes a lot 140x320 ft., with 5-story brick building, boiler and engine house. The machinery comprises Crompton & Knowles looms and spinning machines, Davis & Ferber dryers, electric motors, machine parts, lathe, etc., and a large quantity of yarn. The office furniture will also be sold. Anent liquidation, 29% has been paid creditors to date.

Greenwich Mills, East Greenwich, R. I., has absorbed the **A. H. Esten Dye Co.**, which is on adjoining property. Alterations will be made to the newly acquired plant. Machinery, including new automatic looms, has been installed at the main plant, and the new finishing department will be in running order soon.

New Braunfels, Tex. A mohair and woolen mill will be established in buildings formerly occupied by cotton-seed oil mill, financed by Texas Angora Goat Raisers Association.

***Lancashire Felt Co. of Canada, Ltd.**, is now installing machinery and equipment in the building purchased in Guelph, Ont., Canada. The company which has an authorized capitalization of $250,000, of which $100,000 is subscribed, is a branch of the Lancashire Felt Co., of Denton, England. P. G. Hodgson, of the parent company is president of the Canadian branch, while A. W. Walter, of Montreal, is vice-president and E. F. Walter, of Montreal, is treasurer. Mr. Jochimeck, formerly of Jochimeck, Drone Co., Guelph, Ont., will be superintendent of the new company. The company will produce wool felt hat bodies from wool noils.

Knit

Ballston-Stillwater Knitting Co., Ballston Spa, N. Y., has resumed operations following a shutdown.

Warner Knitting Co., Clayton, N. Y., is increasing operations.

W. S. Weeper & Co., Fonda, N. Y., have taken on additional workers and are running overtime.

Belle Knitting Mills, New York, has been transferred to Jonestown, Pa., and will operate there in a building formerly used by **J. F. Hazeltine** as a pants factory.

A. & G. Knitting Mills, Philadelphia, Pa., recently organized, have established a plant at 36 North Third St., and plan extensive operations.

Travelo Corp., Philadelphia, Pa., recently organized, has taken over the **Tartan Knitwear Mills,** Philadelphia, and is now operating at the local plant of the latter company at 426 East Allegheny Ave. The new corporation has also taken over **Peckham-Foreman, Inc.,** New York, manufacturer of knitwear, and will consolidate production in Philadelphia.

Viking Hosiery Mills, Inc., Reading, Pa. In bankruptcy; at meeting of creditors March 22, Howard V. Wentzel, was elected trustee; arrangements will be made for immediate disposition of the machinery, equipment, supplies and finished hosiery.

Bear Brand Hosiery Co., Beaver Dam, Wis., normally employing 1,000 workers at its three plants at Hartford, Waupon, and Beaver Dam, has announced a decision to abandon its $500,000 investment in Wisconsin because of high taxes and conflict with the State Industrial Commission. The company has a branch at Kankakee, Ill. It seems that the commission has refused permission to employ women until 10 o'clock at night.

Silk

Chelsea Silk Co., which has taken over the plant in Mystic, Conn., formerly occupied by the **Sadonia Mills, Inc.,** is altering the mill to accommodate between 80 and 100 looms which are being shipped from the Putnam plant.

***College Weavers, Inc.,** Northampton, Mass., acquired March 25, through quitclaim deed, control of the property of the Belding-Heminway Co. in Northampton. S. Levine of New York expects to open the plant.

Mercantile Fabrics Corp., Paterson, N. J. Peter N. Perretti, Passaic, N. J., has been appointed receiver for stockholders and creditors.

H. R. Mallinson & Co., Trenton, N. J., are continuing operations at local mill, following recent resumption after several months curtailment, and will hold to present schedule for an indefinite time.

Fonda (N. Y.) Silk Fabric Co. has started a night shift in order to fill increased orders.

***Champlain Spinners, Inc.,** Whitehall, N. Y., will start operations within a week. Machinery purchased from South River (N. J.) Spinning Co., Inc., is being installed and it is believed that the finished product will be ready about the last of May or the first of June. Operations will be started in the former plant of the Champlain Silk Mills. Theodore Belanger, president, has been in the silk business since 1909 and was former vice-president of the old Champlain company.

**Indicates previous mention of project.*

Altoona (Pa.) Textile Co., Inc., has been purchased by **Armion Textile Corp.,** New York. B. R. Hyman is superintendent of the Armion company, expects to have the plant working very shortly with an initial installment of 150 operatives. The capacity of the mill will be doubled as soon as equipment at Clinton, Mass., plant of the company can be transferred to Altoona. The business offices of the company are in Chambersburg, Pa.

Pennsburg (Pa.) Silk Co., Inc., recently organized with capital of $30,000, to operate a local silk mill, will be represented by William F. Freeman, Pennsburg, treasurer.

Dominion Fabrics, Ltd., Dunnville, Ont., Canada, have awarded the general contract for a one story weave shed addition to Sullivan & Fried, Ltd., Toronto, Ont. The structure, 183x213 ft., will provide space for expansion of production of the firm's line of towels, bed spreads, hammocks, tapestries, etc.

Finishing

Louis Terry Corp., dyeing and processing of rayon yarns, formerly at Chicago, Ill., have moved to Nicholasville, Ky.

Radiance Piece Dye Works, Paterson, N. J., has awarded general contract to James Susino, Paterson, for a one and two-story side addition, 100x190 ft. Martin Edson, Haledon, N. J., is architect.

Hasco Dyeing Co., Weehawken, N. J., has been leased by Frenklore Co., Inc., 50 Madison Ave., New York. The mill totals 23,000 sq.ft. of floor space, and will be used for a silk processing plant.

Paul Uhlich is operating a shrinking and sponging plant at 462 N. 8th St., Philadelphia. He has leased the second floor; 8,000 sq.ft.

Theis Dyeing & Processing Co., Centerville, R. I., is adding a night shift.

Miscellaneous

Raybestos-Manhattan, Inc., Bridgeport, Conn., whose principal product has been brake linings and clutch facings for the automotive trade, is now manufacturing asbestos awnings and mail bags.

Peerless Mattress Co., Boston, Mass., recently organized with capital of $50,000, to operate a local factory, will be represented by David Hecht, 60 Nelson St., Dorchester, Mass., treasurer. Samuel Miller is president.

American Linen Co., Fall River, Mass., through corporation counsel Edward T. Murphy, in behalf of the city, has filed stockholders names in connection with foreclosure proceedings. The plant has been idle a number of years. The Land court will pass upon the matter.

Velvette Mills, Inc. Passaic, N. J., owned by **Lamond & Robertson Co.,** Paterson, N. J., which was placed in the hands of a receiver in November, 1931, have been sold to Passton Realty Co., for $30,000. The plant is in the former **Pitkin Worsted Mills.** George N. Berlet, Paterson, is receiver for the rug company.

Business Literature

Torque and Tension for Thread-Locking Devices. Dardelet Thread Lock Corp., New York. A reprint of the Bureau of Standards Research Paper No. 386 deals with the subject of the relation of torque to tension for thread-locking devices. It represents a very complete investigation of the subject of locking screw threads.

Refractory Equipment. McLeod & Henry Co., Troy, N. Y. This bulletin describes the different types of super-refractory blocks, bricks, and complete settings which are made of Carbes, a silicon-carbide compound. The physical characteristics and manufacturing processes of Carbes are described in detail, together with an explanation of its advantages and limitations.

Sodium Metasilicate. Philadelphia Quartz Co., Philadelphia, Pa. Pocket-size, 12-page booklet outlines the uses of this compound, which has been given the trade name of Metso. In the textile industry, it is used in kier boiling, scouring of wool, silk and rayon, and in silk degumming.

Spinning Frame, Cotton. Saco-Lowell Shops, Boston, Mass. A detailed description of the model 32 spinning frame is offered in a 55-page illustrated catalog. All essential features of the frame are carefully discussed and constructional advantages are pointed out. Production tables for warp, filling, and knitting yarns are provided.

Spinning Rings. Whitin Machine Works, Whitinsville, Mass. The results of four tests for hardness, roundness, flange accuracy, and smoothness on Crys-Steel spinning and twisting rings are set forth in an interesting 12-page leaflet. The results of these tests reveal some interesting facts.

Steam Line Equipment. American District Steam Co., North Tonawanda, N. Y. Catalog covers Adsco line of slip type expansion joints, underground steam conduits, meters, traps, separators, etc. Illustrated.

Textile Machinery Travels. Whitin Machine Works, Whitinsville, Mass. An interesting letter from the native representative of Whitin in China discloses that shipping of machinery in that country still presents its difficulties. The literature is entitled "Whitin Machinery Travels Marco Polo's Trail."

Traps. Armstrong Machine Works, Three Rivers, Mich. The first issue of a new house organ entitled "The Armstrong Trap Magazine," and designed as a monthly publication, has for its leading subject "How to Get the Most Heat Out of Your Unit Heaters." The purpose of the magazine is to bring before readers the latest pictures and reports of developments, improvements, methods and solutions of typical trap problems.

V-Belt Drives. Gates Rubber Co., Denver, Colo. A 12-page leaflet has been issued which contains interesting and useful data on power transmission by V-belt and rope drive. New textile loom parts made with a large amount of cotton fabric are also described.

Valves. Homestead Valve Manufacturing Co., Inc., Coraopolis, Pa. A new and more complete reference book on valves has recently been issued.

Variable Speed Transmission. Reeves Pulley Co., New York. Catalog No. 99 contains 74 pages of illustrative and descriptive matter relative to the complete line of speed control units manufactured by this company. Constructional details and operating principles are carefully explained. Application of the various units are cited. A price list of the various units and replacement parts has also been published.

Castings, Promal. Link-Belt Co., Indianapolis, Ind. New Book No. 1250 illustrates and describes Promal, shows its various applications for other purposes than chain, gives a comprehensive description of its qualities and technical data concerning it.

New Machinery *and* Processes

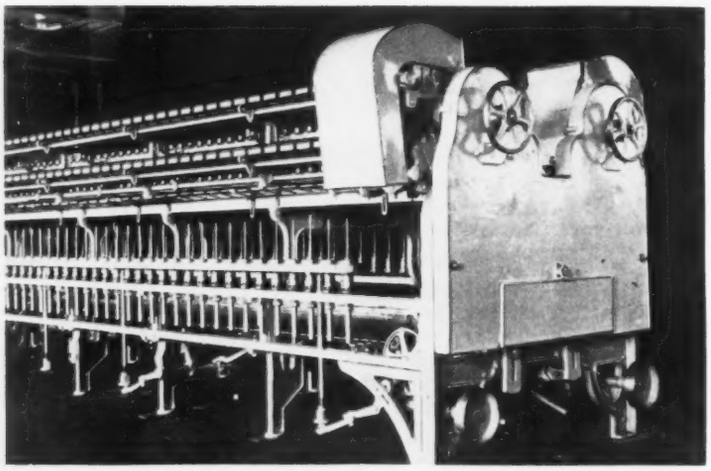


Fig. 1—Novelty twister for producing a wide range of fancy yarns

Novelty Twister

ANNOUNCEMENT of a new novelty twister equipped with either Duplex or Triplex heads is made by Collins Bros. Machine Co., 647 N. Main St., Pawtucket, R. I. The heads may be placed one on each side, as desired, using either two or three lines of independently driven under rolls with top rolls in racks.

Each line of rolls has two speeds ahead, and the lines may be timed to run at the same speed or at different speeds—an essential feature in making many novelty yarns. All three lines are controlled by a central gear, the speed of which is controled by the twist gear.

The spacing mechanism is operated by a double-clutch motion for each line of rolls. This operates an adjustable cam plate, producing an even or uneven spacing of nubs or covered yarns, or a combination of both with intermittent nubs in between. Either two- or three-color effects may be obtained. This spacing mechanism is described as being of very simple construction, and it is stated that clashing or breaking gears has been made impossible.

The twister has several other special features, such as oilless roll bearings and patented ring shields which are designed to prevent oil from being thrown by the traveler onto the yarn.

Although the speed is higher than that which is customarily used, because of the slow speed at which the cam plate can be operated, it is declared that the power consumption is relatively very small.

Creels are made to take either cones, tubes, silk spools, or bobbins as desired; and all guides are porcelain.

An interesting feature is that the Duplex and Triplex heads and their attendant mechanisms with which this twister is equipped may be applied to existing machines of the same make.

Chemical Washing, Extracting, and Drying Machine

DEVELOPMENT of a new type of equipment for degreasing, scouring, and cleaning of raw stock, yarns, and other textiles is announced by Paul Edlich, Passaic, N. J. The apparatus is designed for use with carbon tetrachloride, trichlorethylene, or other solvents. This machine permits the application in textile plants of dry-cleaning methods for the removal of oil stains from hosiery and other knit goods, for depitching or detarring wool, and for the treatment of silk, rayon, and cotton fabrics. It is emphasized that solvents may be employed which are non-inflammable, do not cause shrinkage of the material, and do not affect the tensile strength of rayon or other fibers or the shade of dyed goods. These solvents are finding extensive use in laundries and dry-cleaning establishments and are now being adopted in the textile industry.

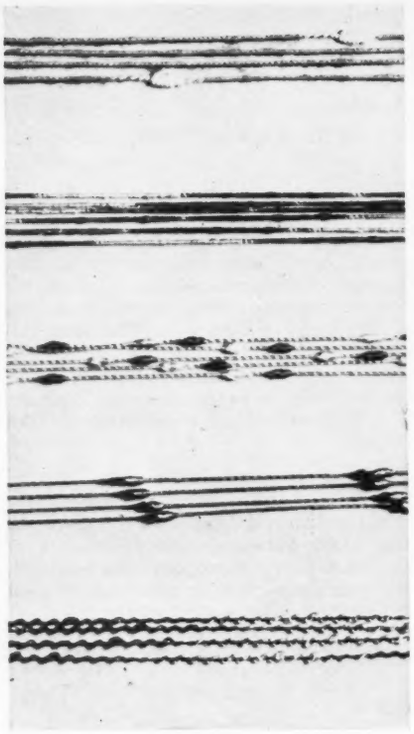
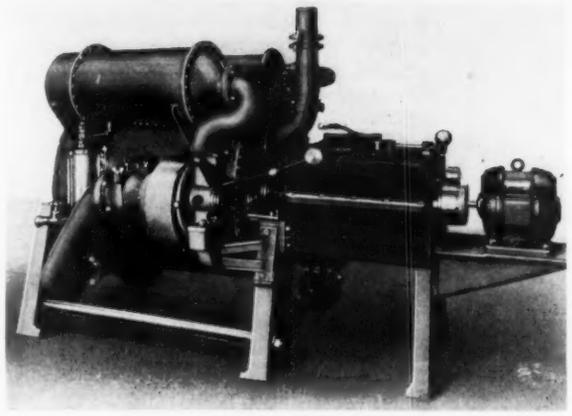


Fig. 2—Some of the novelty yarns produced on fancy twisting frame

The unit consists essentially of a revolving Y drum for holding the material to be processed; reservoirs for the solvent; a filter and recovery plant for reclaiming the used solvent; and the necessary motor, pump, and fittings. To operate the machine the Y drum is loaded with the material to be cleaned, and the doors are closed and locked. Solvent is now entered, and filtering started. The pump now sucks the solvent from the material and delivers clean solvent into the machine through a filter. This process is continued for about 5 to 7 min., and the solvent is then pumped from the machine to the reservoir. The Y drum is now started to revolve slowly. The speed gradually comes up to about 800 r.p.m. and the machine then acts as a centrifuge. After extracting for another 3-5 min., the machine is brought to a stop and the recovery plant is brought into function. During this process warm air is blown through the chamber, and the solvent is collected in a condenser. When recovery is complete, fresh air is forced through the chamber to deodorize the material. This completes the process and the material which has been cleaned can be removed dry and free from odors. The apparatus is fully enclosed



Equipment for degreasing, scouring and cleaning of textiles with solvents

to permit economy in operation and to prevent the escape of noxious or toxic fumes.

Among the advantages cited for this equipment are the low solvent consumption, moderate drying temperature, and simplified control. Other features include positive centrifugal clutch, Monel metal drum and SKF bearings.

Oil Spraying Process

FOR spraying oil on raw cotton and other textile fibers important improvements in the Breton Minerol Process are announced by Borne Scrymser Co., 17 Battery Place, New York. These improvements cover an automatic mechanical device to measure the oil more accurately and to give a greater distribution of the lubricant, permitting an additional amount to be applied to each 100 lb. of cotton. The application is to be effected after the major cleaning operations.

The object of the process is to insure better running work, less waste, better working conditions, less static electricity, protection of card clothing and other parts of machinery subjected to rust, and further reduction in dust and lint.

Improved Mercury Vapor Lamp

IMPROVEMENTS in the design of their Cooper Hewitt mercury-vapor lamp are announced by the General Electric Co., Schenectady, N. Y.

The most noticeable changes have been made in the construction of the mercury-vapor tube or light source. A new style of straight-line appearance has been developed. Positive terminals are now in the plane of the tube and are said to be materially reduced in length. Negative terminals have been relocated at the top of the bulb; and, by the use of the reentrant seals, they also have been materially reduced in length.

With the improvement in design of the lamps comes a certain restriction in their position of operation. Whereas the old model could be operated all the way from horizontal to vertical, the new model tube comes in two styles—one for horizontal operation and the other for vertical operation. This limitation is brought about by the necessary change in position of the negative terminal.

All tube terminals are now of the intermediate screw - base screw - shell type, and by means of insulating covers are easily attached by hand. The location of the negative

Mercury vapor tube showing new terminal construction

terminal serves as a positioning point and prevents rotation of tubes in service.

The reflector has been redesigned with rounded corners, concealed wiring, greater reflection surfaces, and elimination of holes, thereby presenting what is declared to be a more efficient and trim appearing unit.

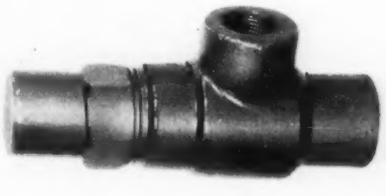
Further advantages attributed to this new unit are improved operation, more reliable service, easier maintenance, less shipping hazard, more rugged construction, and greater electrical safety.

Pressure Relief Valve

A PRESSURE relief valve designed especially for use in conjunction with hydraulically operated machinery has been developed by Brown & Sharpe Mfg. Co., Providence, R. I.

By removing the hexagon cap and turning the adjusting screw, it is stated that the compression on the valve springs may readily be adjusted so that the value may be set to operate at pressures from 0 to 200 lb. per square inch. Guides on the valve are designed to prevent fluttering and noisy operation.

Features in the design of the valve are the large valve chamber which is designed to permit a ready escapement of the bypassed liquid, and the double spring arrangement which gives a wide range and flexibility. The valve is made to take 1-in. piping.



Adjustable pressure relief valve

New Dyestuffs

General Dyestuff Corp., 230 Fifth Avenue, New York, has announced the following new products:

INDANTHREN PRINTING BLUE GG SUPRAFIX, an addition to the range of Suprafix dyestuffs which is readily fixed and yields bright blue prints which are much greener than those obtained with Indanthren Printing Blue R paste. Like the other Suprafix dyestuffs, the new brand possesses the advantage of being readily fixed even in cases where the prevailing steaming and moisture conditions are apt to vary, of not drying up, the paste always remaining in a consistency which can be easily stirred, and of not being susceptible to frost. Indanthren Printing Blue GG Suprafix is best printed by the potash-Rongalite steaming process without previous reduction, and fixed by a short steaming in the rapid ager. The prints obtained in this manner are slightly greener than those produced with Indanthren Brilliant Blue 3G, possess very good fastness to washing and chlorine, and good to very good fastness to light. Indanthren Printing Blue GG Suprafix dyeings on vegetable fibers, when produced by the stock vat process, are dischargeable to a clear white with Rongalite CL without a previous treatment with Leucotrope W conc., and dischargeable in colors with the aid of Vat dyestuffs. The dyestuff is also well suited for bright color discharges on substantive or Naphthol AS dyeings, and for color resists under Indigosol dyeings and Aniline steam black.

INDANTHREN ORANGE 7RK PASTE, a new homogeneous Indanthren dyestuff, is recommended for dyeing cotton, linen, and other vegetable fibers. Indanthren Orange 7RK is slightly redder than Indanthren Orange 6RTK, over which it has the advantage of a greater tinctorial strength and a clearer, brighter shade. It is not as sensitive to caustic as Indanthren Orange 6RTK. In view of its excellent fastness to washing, boiling and chlorine, its very good fastness to peroxide and boiling soda, Indanthren Orange 7RK is specially suited for wash styles and colored styles to stand bleaching in the piece.

PALATINE FAST BROWN GGNX, a new dyestuff which yields much fuller and more yellowish dyeings than Palatine Fast Brown RN and BRRN. Palatine Fast Brown GGNX levels well and is chiefly intended for the production of dark brown shades, and for dark mode shades in combination with Palatine Fast Orange GN, Palatine Fast Blue GGN, and Palatine Fast Yellow GRN. A special advantage of Palatine Fast Brown GGNX is, that the shade does not, as with the older Palatine Fast Browns, turn reddish in artificial light; it is therefore well adapted for the production of dark mode shades of all kinds. Dyeings with this product possess good to very good fastness to light and very good fastness to perspiration and water; they withstand the usual washing and a moderate fulling and are also very fast to carbonizing. Palatine Fast Brown GGNX is recommended for the dyeing of woolen piece goods, knitting and carpet yarns, and in tops-dyeing for goods subjected to moderate washing. It is also suitable for silk dyeing, but is not recommended for gloria, as it dyes the wool much deeper than the silk. It is suitable for wool printing but not discharge work.

Questions . . . *and* Answers

Wavy Joinings in Silk Fabrics

Technical Editor:

Will you kindly let us know what in your opinion causes wavy joinings in silk fabrics and which is the best way to avoid them? (7831)

There are several causes for so-called wavy joinings in silk fabrics, some of which may be outlined as follows: the cloth being let back unevenly through the pressure roller, lost play in the take-up gears, weights having a different tension after resetting, and the shafts being out of place.

After picking back, the cloth is often let back while the warp tension is loose, leaving an uneven set. Caution the weavers to lift weights before letting back the cloth. After the cloth is set, leave the weights down so shafts will resume the proper balance, after which the weights may be lifted and the cloth reset ready to resume weaving.

When the picks have been beaten in, and are picked out for defects, the space formerly woven will often appear wavy due to the creases formed by the removed picks. As this space is woven up again with new filling, the filling will lie in the creases, often one to four spaces apart here and there, causing the wavy appearance. To overcome this defect, certain precautions can be taken which will insure a perfect set. After the pick-back and after the cloth has been set, make several picks to insure a perfect joining. Next take a piece of cloth saturated with a solution of boric acid and water or alcohol and water. The latter is very satisfactory and is made by using equal portions of each ingredient. The cloth should not be wet. It should be merely in a damp state in order that drying will be quick. Saturate the portion of the silk warp which has been picked out and also about an inch of the unwoven warp. Be very careful that this solution does not touch the woven part which contains any part of the filling but that it comes as close to the last woven pick as possible. Now fan with a piece of cardboard until the silk threads have dried, after which the loom can be started up.

In preventing tight joinings, a cloth setter is a handy device, especially for inexperienced weavers. After a set, the loom should be woven two picks and set again. Weavers that become accustomed to setting a loom as described and using the alcohol solution can be expected to turn in cloth without a single set mark more than one pick out of the way.

▼

Identification of Knitted Fabric

Technical Editor:

We are enclosing a sample of a knitted cotton fabric. If you can advise us the type of knitting machine on which this fabric was made, we shall appreciate it. (7810)

Fabric similar to this sample can be made on either a latch- or spring-needle machine. The face is composed of one-and-one tuck stitches alternated on each course, while the loop effect is made by throwing in a softer and heavier yarn on the back. An extra long backing loop must be put in to get the desired effect, and this is accomplished on a spring-needle machine by means of a special bur. On a latch-needle machine the long loops are put in by drawing an extra end of yarn over jacks or blank needles.

▼

Uneven Twist Cause of Horizontal Streaks

Technical Editor:

We are enclosing three full-fashioned stockings marked A, B, *and* C *respectively. These stockings are five-thread, 42-gauge, made up of silk which has been twisted fifteen turns. On sample A you will note a missing line near the middle of the leg fastening, and on one side of the stocking only. On samples* B *and* C *you will see lines which are similar, except that they are going around the entire stocking. We would like to have your idea as to what is causing these lines. (7830)*

We have examined the hosiery samples and observed the well-pronounced lines extending with the courses. The fabric seems to be uniformly constructed. The courses along which the lines extend have a stitch length identical with the remainder of the work. The stitches are not distorted where the lines appear. The lines are due to a difference in the amount of light reflected; or, to state it differently, they do not have the same luster. The yarn in the courses which give the line effect are low in luster.

It is well known that twist in hosiery silk affects materially the luster of the hose. During the past few years the low-luster vogue has caused an additional amount of twist to be inserted in hosiery tram to dull the luster.

You state that the silk was twisted fifteen turns per inch. With this information in mind we withdrew test specimens of the silk and found the twist to average approximately fifteen turns per inch in the normal fabrics. A test specimen was withdrawn where one of the horizontal lines appeared, and the yarn in this course was found to contain 27½ turns per inch. The lines are therefore due to excessive twist at intervals in the silk, causing the courses to be dull in luster where this portion is knitted into the cloth.

The defect is therefore due to faulty throwing, the excessive twist no doubt occurring when the operator is creeling in the spools of raw silk in twisting. The spindle should not be started until the feed rolls are in motion; otherwise too much twist is bound to be inserted before the passage of yarn is begun.

▼

Designating Direction of Twist

Technical Editor:

Will you kindly explain to us the difference between regular and reverse twists and between right and left twists, in both spinning and twisting of worsted and mohair yarns. We have our own ideas on the subject. Some of our customers agree with us and others do not. (7809)

In the worsted industry it is customary to drive the spinning tubes in cap spinning, and the spindles in both ring and mule spinning, so that they rotate in a clockwise direction, as observed when looking down on the spindle tip. The direction or kind of twist is known as regular spinning twist. When the spinning tubes or spindles rotate in a counter-clockwise direction, the twist is termed reverse spinning twist.

When single worsted yarns are plied —doubled and twisted—it is the usual

practice to have the direction of twist opposite to the direction of the twist which is in the single yarn. This is known as regular twisting twist, and it is interesting to note that the twister bobbins rotate in a counter-clockwise direction for regular twist, while the spinning bobbins rotate in a clockwise direction for regular spinning twist. For reverse twisting twist the bobbins must rotate in a clockwise direction.

To avoid confusion, the attention of the reader is called to the fact that the terms "regular" and "reverse" both refer to specific directions of rotation of the spindles in one process. The actual direction is not indicated; and it is seen that "regular" twist for one process can be "reverse" twist for another process, the spindles rotating in the same direction for both processes.

Generally no difference of opinion exists regarding what twists are meant by "regular" and "reverse"; but when they are given other names, such as "right" and "left," difference of opinion does arise as to the correctness of the applied definition. Unfortunately there is no very conclusive evidence to prove the contention of one side as against that of the other, and in either case the original selection of the definition appears to have been an arbitrary matter. Considering what we believe to be the opinion of the majority, and also employing such grounds for reasoning as we can scrape together, the following definitions appear to be preferable: Right twist is that twist which is inserted when the bobbin turns in a clockwise direction. Left twist is that which is inserted when the bobbin turns in a counter-clockwise direction.

In all yarns the twist inserted forms a spiral. The spiral has direction as a screw-thread has direction. A right-hand twist as just defined spirals in the same direction as a right-hand screw; a left-hand twist spirals in the same direction as a left-hand screw. These designations for screws have their origin in the direction in which screw-drivers must be turned to drive the screws home—a clockwise motion being generally considered a right-hand motion. Since the definitions with respect to screws are not susceptible of change, it would make matters clear to the mechanically experienced if twists were defined on the same basis.

Fig. 1 illustrates both regular and reverse twists for spinning woolen and worsted yarns and twisting worsted yarns. Howard Priestman, in his book "Principles of Worsted Spinning," defines "left twist" as being the reverse of spinning twist. This is a definite statement from an authority that worsted spinning twist is right-hand twist. William Watson, in his book "Textile Design and Color," offers the designations shown in Fig. 2.

Samuel Dale in "Textiles," Nov., 1922, stated that in some sections of the American woolen and worsted industry the twists shown in Fig. 2 are designated as follows: *A*, left-hand twist; *B*, right-hand twist. The custom in most departments of the cotton and linen industries, and almost without exception in all branches of the textile trade of other countries, according to Mr. Dale, is to designate these twists as follows: *A*, right-hand twist; *B*, left-hand twist. Warren P. Seem, who is well qualified to represent the silk industry in such matters, agrees with the statement that *A* is left twist and *B* is right twist, in his book "Raw Silk Properties."

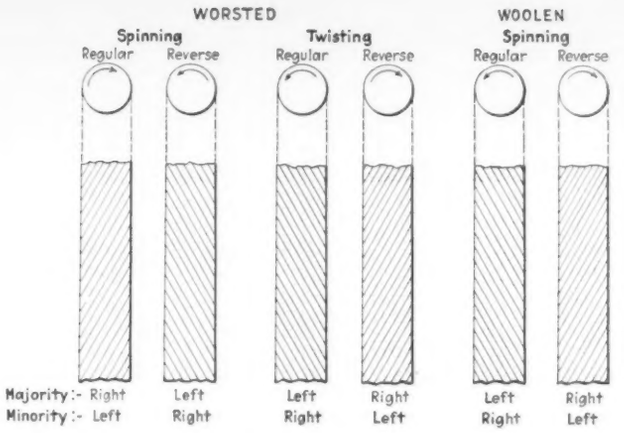


Fig. 1. Spindle revolutions and the twists they produce

Committee D-13, the textile committee of the American Society for Testing Materials, defines direction of twist as follows: "Twist, direction of—In the case of yarn or cord, the yarn or cord has right-hand or regular twist if, when it is held vertically, the spirals or twists are seen to incline upward in a right-hand direction, and has left-hand or reverse twist when the spirals or twists are seen to incline upward in a left-hand direction. Note: Attention is called to the fact that this definition of twist is opposite to that used in sewing-thread manufacture."

Since the directions of "regular" and "reverse" twists depend upon whether the yarn is single or ply, and even upon the number of times the yarn has been plied, it would seem advisable to drop the terms "regular" and "reverse" from the D-13 definition. This might be further simplified as follows: *A yarn or cord has right twist if, when it is held vertically, the spirals or twists are seen to incline upward in a right-hand direction, and has left twist when the spirals or twists are seen to incline upward in a left-hand direction.* We believe that this definition is accepted by the majority of textile men, and it would be an excellent thing if the minority would forget their prejudices and traditions to the extent of adopting it likewise.

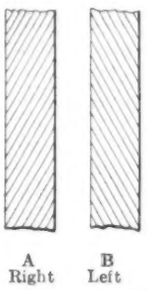


Fig. 2. Directions of twist

According to this definition, in the woolen industry regular twist for spinning is left twist, in the worsted industry regular twist for spinning is right twist, and in the cotton industry regular twist for spinning is right twist.

There is a trite saying that "the customer is always right." Due to acknowledged differences of opinion regarding the definitions of right and left twists, wisdom suggests that a sample or diagram of the yarn should either accompany the order or be requested when right twist or left twist is specified. This procedure eliminates both mistakes and arguments.

▼

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

Tinting Silk Evenly

In the March 12 issue, due to a typographical error, it was stated: "In order to check the time requirement [in soaking silk], it is necessary to make a fat-determination analysis of the soaking emulsion at intervals of 70 min." Samples for the fat-determination analysis should be taken at 10-min. intervals.

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TEXTILE WORLD ANALYST

Distinctive Fabric Styling Could Help Offset Silk Uncertainty

Policies of individual companies this year are vital. Lessons may be learned from the way the silk industry is courageously meeting its problems by urging more drastic curtailment of output, a stiff upper lip on prices, better styling, and a concerted war on the design-piracy evil.

THE immediate outlook in the silk industry, while not without certain hopeful signs, is unlikely to excite enthusiasm. Uncertainty in the raw silk situation, a condition intensified recently by threatening war clouds in the Orient, coupled with the diminishing consumption of silk products that naturally resulted from reduced buying power of the consumer, have discouraged forward purchasing in almost every branch of the silk industry. In the broadsilk division, with which this article is primarily concerned, there is a deplorable state of lethargy with respect to styling and fabric development. Such conditions, obviously based upon an ultra-conservative line of reasoning, must be dispelled if the broadsilk manufacturers are to get anywhere this year.

The broadsilk people have followed the price-cutting will-o'-the-wisp into treacherous paths. Even the garment manufacturers, always alert to the weak spots in the price situation, declare that the lack of backbone exhibited in the broadsilk trade has been a constant menace to the price structure. One encouraging feature, however, has been the reluctance of most silk weavers to produce goods for stock; and, in some cases, cutters have experienced difficulty in obtaining spot deliveries of desired fabrics. Recent curtailment of production in the Paterson district has imparted courage to the market but reduced schedules have not been in effect long enough to generate a definite stimulus to broadsilk prices.

Problems of Silk Decline

The tendency of raw silk to seek lower price levels has created new problems for the industry generally. With the exception of cotton, which declined from 20c. to 6c. within less than three years, raw silk has registered a greater drop since the first of 1929 than any other textile fiber. The point has been reached where weighted silk and rayon are almost interchangeable in many constructions of lower quality goods. Some factors in the trade actually regard the price relationship between silk and rayon as an automatic check against substantial advances in the price of either fiber. Moreover, it is felt that the low price of silk will stimulate American consumption of silk products during the next few months.

There was some disappointment in the trade at the comparatively low consumption figures for February. Delivery of raw silk to American mills for that month was only 49,909 bales, as compared with 54,200 bales in February, 1931. The average monthly consumption of silk for the six months ended Feb. 29, 1932, however, was 53,042 bales, or but 6.5% less than the rate of consumption for the corresponding period of the previous year.

What can the silk industry expect in the next year or two? The answer to this question rests very largely with executives in the industry itself. Intelligent management, ever conscious of changing conditions in the silk market, and possessing a keener appreciation of the importance of industry cooperation, is the urgent need. The industry is not without capable leaders, who have suggested by example and other means sound policies for the trade, but there is much educational work to be done, particularly in the creation of a greater measure of confidence within the group and the attainment of a more widespread cooperative action.

Notable progress in this direction has been made through the campaign against design piracy culminating in the organization of the Design Protective Association. Engravers and printers joined in this effort to eliminate an evil that reached widespread proportions in the broadsilk trade last year.

Another of the constructive efforts that has significant possibilities is the general survey recently undertaken by the Silk Association of America, under the efficient leadership of Thomas B. Hill, with the idea of finding out just where the industry stands. This investigation covers every important phase of the industry, including productive equipment, trade statistics, manufacturing costs, budgetary control, and the complex problems of styling and merchandising.

Existing conditions in the broadsilk trade, marked by divergent style tendencies, demand that the silk manufacturer keep a watchful eye on his retail outlets in order to study consumer reactions. What fabrics should be manufactured? This is the perpetual question confronting the silk weaver and today, more than ever before, correct styling and accurate determination of consumer preferences are essential factors for success in the broadsilk trade. Certainly, no division of the textile industry requires as highly developed merchandising instinct as that needed in the silk goods branch.

Fabrics Should Be Marked

An opportunity exists for the promotion of quality recognition and "trading up" in broadsilks, and this chance is not being overlooked by a few of the more progressive manufacturers. There must be an intelligent understanding in the consumer's mind of the difference between pure dye and weighted silks and, with this object in view, fabrics should be correctly marked. The broadsilk mills, according to some factors in the trade, would do well to take a cue from the blanket manufacturers and agree to indicate on the label the fiber content of their product.

Retail outlets should be encouraged to make sufficient explanation in their advertising of the difference between cheap silks at 68c. per yd. and quality goods at $1.75 per yd. Considerable importance is attached to the joint committee meetings of the Silk Association of American with the piece goods division of the National Retail Dry Goods Association in which practical problems of the manufacturer, converter

(Continued on page 58)

The merchandising discussion which appears regularly on this page considers various branches of the textile industry from week to week. It analyzes significant marketing trends or developments in those branches. While it covers current movements, its conclusions concern potential future significance of those movements, rather than the effect of temporary fluctuations in trade sentiment.

Our orders for lace yarns hark back to petticoat days . . .

There are two reasons for the rush of lace yarn orders which recently has come Quissett's way. First of all, the new dresses have taken fuller and more feminine lines, and they call for more undergarments to round out their fit. This bigger market for lace-trimmed undergarments, and the prevailing mode of fine cotton lace dresses and neckwear, have rocketed the demand.

And the second reason — Quissett's versatility. The ability of this mill to produce any kind of cotton yarn quickly brought lace weavers to its doors when lace yarns were needed in a hurry.

So today, Quissett is running on lace yarns — on embroidery yarns — on yarns for the silk trade — and on what is, perhaps, the most varied assortment of cotton yarns in the country. And every type of yarn is spun with customary Quissett quality which is so influential in keeping your production costs low, and your fabric sales high.

Your request for sample lace yarns, or for any type of cotton yarn brings you samples by return mail.

Quissett Mill
New Bedford, Mass.
Wm. M. Butler, Pres.
Edward H. Cook, Treas.
Thomas F. Glennon, Agent

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find New Lows

THE continued lack of any development of business in cotton yarns, together with the decline in raw cotton, has resulted in further weakening in cotton yarn prices. The condition is said to be not entirely general, but nevertheless, spinners who two weeks ago stood firmly for 15½ and 16c. for 20s-2 warps, are now indicating willingness to accept 15c. and even 14½c. Prevailing quotations are therefore fully ½c. down, and dealers report the market at a new low since these prices are even below the low level of last October which was the low point for over 30 years.

Since the price of cotton is about ¾c. above that of last October, the margin between cotton and yarn prices is practically 1c. less than it was last fall. Such a condition is necessarily uneconomic and cannot be maintained. Dealers report spinners announcing decision to curtail operations, and even shut down entirely, as they are unable to operate their plants upon such a basis. An upward movement of the cotton market would doubtless result quickly in firmer quotations.

Current lack of yarn interest is reported so marked that more than one dealer has asserted it would be better for yarn houses to call in their salesman from the road until the situation improves, as they believe it necessarily must. By pursuing such a policy, they would not only save money in cutting down salesmen's expense, but at the same time they would relieve the buyers from pressure, with the consequent stimulating effect upon their mental attitude toward the market. Few dealers are anxious to sell yarns on the basis of today's prices for future deliveries, and this is another argument cited for cessation of sales efforts.

The decline in prices of carded yarns referred to above has failed to stir any interest on the part of buyers. Offers of 20s-2 warps are noted at 14½ to 15c.; 30s-2 are noted 18½ to 19c., with skeins and tubes at 18½c.; other counts are in proportion. In carded frame-spun yarns, 10s are noted at 12½c., and it is the opinion of some factors that a large sale might obtain even lower figures. Lack of any real business, however, makes it difficult to establish prices.

Combed yarns reflect conditions shown by carded yarns, with weakness revealed here and there in recessions from the higher prices which had been named in an effort to rehabilitate this market. Business has been scattered, and it usually has taken an attractive price to land what business is offered. With 12s single around 18½c., 38s are noted at 29 to 30c., and 40s at 30 to 31c. However some combed spinners have a good volume of business already on their books, and the situation is less acute than in carded yarns. Mercerized yarns show no marked change. The prevailing prices are being well maintained with the limited new business being placed. Specifications continue to come in, and processors consider the general situation relatively satisfactory.

◆Selling Depresses Cotton Market

THE selling movement which preceded the Easter holidays, became somewhat more aggressive at the reopening of the market this week and appeared to be intensified by nervousness over prospects for delays in balancing the budget and apprehensions of bonus legislation. Prices made new low ground for the movement on Tuesday morning when May contracts sold at 6.11, or more than $5 per bale below the recent high level and within 15 points of the lowest price reached by that delivery on the decline of last autumn. Offerings then subsided, while the development of more favorable prospects of early action on the tax bill, and the statement by President Hoover in opposition to bonus proposals, appeared to make a favorable impression on all markets. Fluctuations in cotton were influenced to some extent by readjustments of the parity between New York and Liverpool necessitated by rapid changes in sterling, but the market showed indications of an improved technical position while there was nothing to suggest any weakening of the spot situation in the South. This was reflected by considerable covering, but the volume of business showed a tendency to taper off on the rallies, with disposition to await developments.

During the last two or three weeks the attention of the trade has been dis-

(Continued on page 56)

Market Briefs

Cotton: Gradual price decline continues.
Cotton Yarns: Quiet, inactive market.
Cotton Goods: Stability in dull period threatened by cotton decline.
Wool: Decline has met resistance; mohair breaks.
Worsted Yarns: Dormant market with spinners curtailing.
Woolen Goods: Fair clearance call.
Silk: Light buying, chiefly by hosiery mills.
Silk Yarns: Thrown and spun silk quiet.
Silk Goods: Sheer fabrics, especially georgettes, improve.
Rayon: Light call; may curtail further.
Knit Goods: Easter hosiery call stressed mesh, plains quiet; spring underwear active; sweater output curtailed.

◆Worsted Yarns Marking Time

WORSTED yarns continue in a very dull position, with little or no active interest in any quarter. The situation is a waiting one, with no evidence offered as to what course the future will follow.

No price changes are reported. It seems that the trade has finally recognized the fact that cut prices have little success in developing interest. On the contrary, buyers of both goods and yarns have had little incentive to place orders so long as they had reason to believe values were uncertain, and were apprehensive that any purchase they might make would prove to be a mistake as lower prices developed later. Prices prevailing to-day offer little in the way of profit for anyone, but there still appears to be lack of initiative in placing prices on a proper basis. It is difficult to establish any price basis in the absence of demand, but a sincere effort to set prices with a sound and economic basis in costs, might easily have a stimulating effect under proper conditions.

Mill operations are unsatisfactory for the average spinner, and several are disposed to consider curtailing operations even to the extent of closing down completely unless orders develop at a fair price. The usual weekly call for immediate shipments of yarns in small quantities is reported coming though in reduced volume.

In what business there is, and that is little enough, knitting yarns occupy the lead. However, the business on women's sweaters, which has been so active, is now declining, and men's lines are occupying more attention. Bathing suit demand is more prominent, but demand is far from reaching the expected volume. Lack of orders for suits is said to be the cause, and as time goes on, the trade is becoming more apprehensive as to its ability to turn out goods as rapidly as may be needed in time for the season on these lines. With a large use of slub-dyed single yarns in swim suits, and the need for at least four weeks to make these up, the problem of adequate deliveries promises to become acute. Sellers believe demand will develop around the middle of April, when a grand rush for deliveries is expected.

Weaving yarns present no new aspects. More talk is heard that mills on men's wear fabrics may close down until something develops of a definite character. Manufacturers admit they are at a loss to know how to meet the situation so as to create any demand. Low prices have certainly not been effective nor profitable, and if the truth were known, buyers themselves are not

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

anxious for any more price cuts, with their resulting unsettlement of values. A universal policy of a fair price for a quality fabric, it is believed, would prove a helpful force in stimulating a return of activity. At present there is little buying of yarn, and few orders on spinners' books.

◆Wool Called Steady But Mohair Slumps

WOOL dealers report little if any material improvement in mill demand during the week. Prices on the limited sales made have been slightly lower. Concessions are available on off-grades and odds and ends, but choice wools remain nominally firm. It is difficult to sell wool or goods at the present time and both markets are practically at a standstill. Dealers are making no attempt to force sales and the small turnover as well as the prices received are considered without significance during this unusually-pronounced seasonal inactivity.

Bids in the range of 50 to 51c. clean basis on choice original bag wools of the Montana type have been rejected as supplies of this wool are now in small compass and new clip wools are not likely to arrive in the East for several months. The fleece wool market is decidedly unsettled and holders of the several grades have disposed of small quantities during the week at new low prices. Buying of the new clip is under consideration, but competition for such wools will be held in positive check by the certainty that the fine clips will have to be purchased at a price that will establish delaine wool on a strictly competitive basis with fine Texas and territory.

That wools are intrinsically cheap is admitted by most manufacturers who now admit that even lower prices on the raw material would prove no guarantee of the resumption of profitable mill activity. Even cheaper wool is said to offer no solution of the wool manufacturing situation as it prevails at this time.

In order to make way for the new mohair clip, the national cooperative by cutting the price of its large original bag surplus to around 8c. has been able to persuade several carpet manufacturers to test out on a large scale the use of mohair as a substitute for imported low carpet wools hitherto used in rug manufacturing. Sales during the week aggregated 5,000,000 lb. The cooperative will take an enormous loss on these sales, but growers who received about twice as much on original advances as the mohair is now being sold for, will not be called upon to bear any of the loss.

◆Wool Substitutes Await Mill Demand

DEMAND for reworked wools at this time is about as flat, stale and unprofitable as the demand for virgin wools. Mill interest in both commodities is pretty close to the low point of the year. Manufacturers of reworks have their prices based upon the very low rag level and are in a position to offer a cheap and extensive line of wool substitutes at any time the woolen mills feel it opportune to examine their offerings. Mill interest in white and light colored substitutes of medium to fine wool grade, is a little more active and imports of choice white underwear and hosiery clips have been arriving more frequently. In domestic rags an easier trend is noticeable, caused largely by liquidation on the part of some small dealers. Larger graders are meeting the market made by the weak holders.

Wool wastes are moving slowly outward to consumers on a spotty demand which usually requires immediate delivery on the materials purchased. There is no buying ahead. Waste prices have been firm while wool prices have declined. It remains to be seen whether waste demand will be sufficient to maintain current values.

Noils have had a moderate turnover and dealers seem to have had no difficulty in maintaining values. Diminishing supply is a factor in the strong position of noils. The top industry is practically lifeless at this time and new business in wool combing has been negligible for month to date with the natural result that the output of the by-products of wool combing has been curtailed. In both England and France the price trend on noils is down at this time.

◆Rayon Producers May Curtail Further

WHILE rayon yarn sales continue the gradual decline that has been notable for some weeks, it cannot be said that the falling-off has shown any marked increase. The two final weeks of March were moderately active, with knitters as the chief buyers. The various market problems such as silk competition, a rayon price guarantee and a curtailment campaign among broadsilk weavers, have served to slow up demand for synthetics.

Manufacturers this week repeated their arguments in favor of a rayon guarantee, and some rayon companies are sympathetic to such action. However, the rayon industry as a whole is still so strongly opposed, that the chances for a guarantee look slim. One of the chief criticisms voiced by the opposition is that the market would be upset once again when the time came to discontinue the guarantee. On the other hand, those favoring the guarantee have an impressive argument. They point to the fact that the only yarn now selling on a guarantee basis is one of the best-moving numbers in the market.

Rayon producers are gradually becoming sold on the principle of keeping stability at all costs. In view of the instability of silk, steadiness of price levels is rayon's strongest point at present; this is unquestionably sound reasoning, and it is a happy omen that producers are being won around to the point. Rayon production continues low, some firms operating at 60% of capacity. It was stated this week that if sales showed a mark drop during early April, producers would not hesitate to cut output even below the present low point of 60%.

◆Sluggish Buying Worries Yarn Men

THE week opened quiet for both spinners and throwsters and there was little prospect of early improvement. Thrown yarn demand from broadsilk mills has shrunk to practically zero, due to drastic curtailment in production by the weavers. Hosiery manufacturers also have slowed up their operation, and their orders for yarn showed a decided drop. Thrown silk mills now are nearing the end of the worst season that veterans can remember and there is no question but that a serious situation faces the entire division. Stringent economies are being practised, but even that has not proved a full remedy, and the outlook is doubtful.

Spinners did little business this week; most of the current orders came from knitters and the total was small. These mills are trying to develop new markets, which is regarded as their sole hope; the underwear end improves slowly, but far from enough to balance decline in demand from weavers. It is estimated that spun silk mills are operating at not more than 25% of capacity.

◆Knitters Increase Raw Silk Orders

IMPROVEMENT in hosiery outlook has brought cheer to the raw silk market by stimulating demand for raw silk among these knitters. This call from hosiery manufacturers is practically the only sizeable business being done in the primary market. The current week found broadsilk houses con-

FABRIC MARKET REPORTS

tinuing their curtailment and resisting all sales effort of silk importers to cover for the spring. Orders from weavers are limited to the smallest possible contracts for spot shipment; a few bales at a time is their limit.

At the hosiery end, the picture is slightly better. Some important companies have been covering for the May-July period and occasionally orders are placed through to December. The knitters put up much price pressure, however, and refuse to place future contracts unless they can get the silk at 10 to 15c. below current levels.

Importers cling to the frail hope that good April weather will improve the broadsilk situation and stir business. Fabrics have been moving very slowly and weavers are reluctant to buy silk.

◆End-March Quiet In Wool Goods

THE first week after Easter was a quiet period for the wool goods industry, business being limited to occasional pick-ups of early summer fabrics, chiefly men's suitings. According to reports, spring stocks are pretty well cleared, and outlook for fall is fairly good. There is little real interest in the fall lines, though several important companies have announced preliminary openings; in view of the backward season, mills are planning to stagger the showings of new lines through several months. This has the advantage of keeping up buyer interest and preventing widespread copying of more successful designs.

Since this is between-seasons, the market is resigned to several weeks of quiet. Several Fourth Avenue companies have fall openings scheduled for next week, but others will not show fabrics until the week following and it will be well on toward the end of April before buyers will have assimilated the new prices sufficiently to place orders.

Indications are mills will go slow on fall production. The season unquestionably will be backward, as at present the garment industry is interested only in immediate business. A few suitings houses have fair quantities of preliminary fall orders on the books, but these firms are exceptions; generally, fall business remains a distant proposition.

▸Wool Goods Utilize Colonial Color Theme

Linking up with the Washington Bi-Centennial, wool goods houses stress the thought that wool is an historic American fiber. Many makers of women's wear are now featuring wool goods apparel in the national colors.

◆Cottons Hold Against Adverse Conditions

THE resolution of the cotton goods industry to maintain prices on a stable basis and to curtail production to a point in line with demand is being given a hard tryout because of the weakness of raw cotton during the last week or two. Nevertheless there has been encouraging firmness on the part of gray goods mills and prices quoted at mid-week showed little or no change from the recent past. Buyers have been picking up the bargains which some second-hand sellers have been offering at under the market and because of the rather large second-hand sales during the month of March, the primary market believes distributors are working themselves into a really strong position which will make for the benefit of the industry as a whole in the long run, by a shift of merchandise from weak to strong hands.

Early this week there was noted a revival of inquiry in the print cloth market which made sellers feel that the long dull period here might be about to end. Prices for the time being have been lower than mills would accept, but it is believed that buyers will come to terms when they have been further impressed with manufacturers' intention to get a fair price for their products or else close down. March figures will doubtless show scant new business, but restrained production should be sufficient to maintain the trade in a clean position so far as stocks are concerned.

Print Cloth Situation

Current mill prices on 64x60s are around 3⅞c. with second hands selling at about 3¾c. Some selling of 4-yard 80-squares at 5⅜c. is reported but the general market was called 5½c. Narrow print cloths appeared relatively strong and actual spots in some constructions were hard to locate.

Coarse yarn gray goods were generally quiet. Prices were reasonably steady but the warning has gone out from some quarters that mills in the sheetings group would do well to take a little more care in keeping production in line with demand. Sales of 40-inch, 5-yard 44-squares were reported at 3⅜c. Drills, twills and osnaburgs were quiet with only small lots reported as traded in.

Fine and fancy gray goods have been attracting fair inquiry and business, though in small lots. All rayon numbers are said not to be in the same fairly satisfactory position held by rayon and cotton combination goods.

Spring business at retail has been very slow. The earliness of Easter removed that event as a focal point for spring women's wear and inclement weather has been another adverse factor. Distributors are holding the bag for retailers so far as stocks of spring goods are concerned, but the bag is by no means as full as usual. A real scarcity of seasonable goods seems likely if the season opens briskly at some later date. Recent orders from the South and Pacific coast are said to be better than those from other parts of the country. Considerable business remains to be done for spring distribution and it is possible that the latter part of April may see its development. The chance of a late spring with several weeks more of fairly cold weather is one of the reasons for expecting that the development may be put off until the end of the month.

◆Sheer Broadsilks Show Activity

INCREASED demand for printed chiffons and georgettes and a steady though light call for printed flat crepes, brought some post-Easter cheer to the broadsilk market. Cutters-up have been operating on small stocks and Easter movement has cleared them out in some instances; they are now in the market for lightweight sheer fabrics. They are buying both large and small patterns, with especial emphasis on such outstanding spring colors as blue, green and black-and-white. Georgettes are in comparatively good position, and weavers hope for a steady call for this, as well as the other sheers, through April.

With all the agitation for curtailment, there is still a deplorably large quantity of distress merchandise available, and most buying is accompanied by bargaining. Few mills are able to get real volume without substantial concessions.

In plain fabrics, cantons are leading. Orders are fewer and smaller than last month, but there is still fair demand—enough to effect movement of the most popular shades.

▸Preparing Industrial Survey of Gastonia Area

A thorough study of present industrial development and factors which might influence the location of new industrial plants and distributing houses is being made at this time for the Gastonia Industrial Commission, Gastonia, N. C., in anticipation of renewed activity on the part of manufacturing concerns. In order that exact, pertinent information may be available to prospective industries, the Commission is now preparing an industrial survey of the area and this is rapidly approaching completion.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Easter Sweater Call Disappointing

MEN'S sweaters have been in fair demand, but the bulk of orders are for women's worsteds; here too there was a slackening during the final pre-Easter week and the total Easter business was below even what the most conservative mill agents had hoped for. Mills are holding down very strictly on sweater production, which is helpful in maintaining prices. Despite backward buying, there has been little pressure for concessions. Buyers were active in the market this week and fair-sized reorders for sweaters were placed, indicating that Easter has been effective in moving retail stocks. The outlook for April is uncertain, and depends largely on weather conditions.

Bathing-suit demand has improved during the last ten days; there is a steady influx of small orders. Business is divided about equally between men's and women's lines; in women's lines, conservative styles are favored. Swimsuit prices hold steady, and production continues light. Manufacturers look for congested buying during the next six weeks, and are hopeful that the improving position of stocks will so tighten prices as to balance up in part at least for the late season. It is regarded as inevitable that much business will be lost due to congested buying when we get closer to the summer season. The demand is more backward than any season in late years, and outlook of the next month is uncertain.

◆Mesh Rayon Underwear Sought

CONCEDING Easter to be well below normal, manufacturers of lightweight underwear lines nevertheless did a fairly good business. Some firms were active throughout the month on women's rayon lines. New stitch effects which emphasized the mesh motif were particularly popular and are likely to remain so, in this division. Women's mesh underwear moved steadily throughout March at prices firm enough to permit profits. There was a call for pajamas, step-ins, chemises, bandeaus and panties. Panties retailing at $1.00 were in demand, as were dance-sets at $1.50 and the $3.50 pajama line. Cotton underwear for spring and summer did not go so well, but the last week before Easter brought some active spot business.

In men's lightweights and mediumweights, interest continues to center on the ribbed union suits, especially those selling at $7.75, mill price. Heavyweights continue to move very slowly, and the backward season has brought reports of price weakness from various centers, mainly the Pennsylvania area.

Production apparently has been going ahead, despite warnings issued by the Associated Knit Underwear Manufacturers of America, and some mills find themselves forced to realize on their stocks. Inasmuch as numerous firms withholding their fall underwear lines until closer to actual retail season, this price weakness may not last. The overproduction seems to be localized; with numerous firms still centering on output of spring and summer lines, it is possible that as approach of the season stimulates demand, the price situation will improve.

◆Quality Plains Move Well in Hosiery

IT was still too early this week to guage the Easter hosiery volume with any accuracy. Weather during the final days was favorable and helped to spur spot buying. Mills were getting Easter business right up to good Friday, and as a result the market tone this week was better than it has been for a while. While plain full-fashioned lines did not fare so well throughout the first quarter, certain of the higher-priced numbers moved steadily at prices allowing fair margin. There was a spirited call just before Easter for the sandal-foot plains, retailing at from $1.50 to $1.95 and there was also a good market for the very low-priced plains.

Early reports indicated that some of the retail chains were successful in moving most of their Easter hosiery, and prospects point to at least a fair reorder business for the first ten days of April. Monday and Tuesday saw buyers drifting into the New York market, and mill agents expected more to come.

One leading hosiery manufacturer said that mesh volume now was about 50% of the total women's sales, but he doubted whether it would go much higher. There are persistent reports of sluggish stocks in plain full-fashioned; buying at this end has been uneven. The total Easter volume was not such as to make mills enthusiastic; those specializing in novelties did profitable business, particularly in the medium-price field, but the weak position of plain full-fashioned proved a liability for the manufacturers running part, or all, in that division.

Half-hose sold poorly throughout Easter; the final week brought some flurries of buying, but the aggregate business was disappointing. Prices now are slightly steadier.

◆Raw Cotton Reports

(Continued from page 53)

tracted from the factors which would ordinarily determine the trend of end-season values. The nervousness caused by recent Washington advices concerning the possibility of finding export outlets for surplus wheat and cotton, now seems to have subsided as a result of reiterated affirmations of Federal Farm Board policies with reference to the marketing of stabilization cotton and of the holding policies of the American Cotton Cooperative Association.

It is doubtful whether there has been any material change in sentiment as to coming crop possibilities or as to distribution during the balance of the season. Ideas of the reduction in acreage still range from about 5% up to 15 to 20%, while estimates of the world's consumption for the season run from 12,750,000 up to 13,600,000 bales. The Government report on spring planting intentions referring to crops other than cotton, suggested shifts in acreage which according to one of the private crop reporting services would indicate a reduction of about 6% in the cotton acreage.

The nearer approach of the planting season without any sign of weakness in southern spot markets, certainly suggests that cotton has worked into firm hands. Perhaps the relatively small offerings in comparison with the amount which still seems to be available, reflects in some measure the New Orleans agreements of last autumn under the terms of which southern bankers were to finance the holding of a considerable amount of cotton from this year's crop. Call for Government crop loans continues, but it is understood that these loans are contingent upon a reduction in cotton acreage.

◆Waste Prices Hold Steady

RENEWED interest was shown this week by southern mills for peeler and upland strips, while the export demand for choice grades of peeler comber was fully as large as in the previous week. The thread and stuffing waste sections of the market, however, continue quite dull.

The most encouraging feature of the current waste situation is the fact that prices continue to hold to the levels established over a month ago, despite the fact that raw cotton prices have receded during that time. Choice grades of peeler comber still command 6¼c.; average qualities of Upland strips are held firmly at 4¾c. and peeler strips bring as high as 5½c. for choice grades.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

Botany Receivership Spurs Reorganization

REORGANIZATION of the Botany Consolidated Mills, Inc., of Passaic, N. J., is planned under the equity receivership proceeding filed in the Federal Court at Newark Mar. 28, wherein Judge Guy L. Fake appointed Col. Chas. F. H. Johnson, president of the company and of Botany Worsted Mills; Franklin W. Fort, president of the Lincoln National Bank of Newark; Harry M. Meyers, vice-president of the Peoples Bank & Trust Co., of Passaic, and Henry C. Whitehead, attorney, of Passaic, as receivers, under bond of $100,000. Effort was also on foot to have bankruptcy receivers appointed and to have a special master named to probe to condition of the company. The company is in default on its 6½% bonds due 1934 and a bondholders protective committee has been formed with F. W. Fort as chairman.

Botany Consolidated Mills, Inc., is a holding company, whose chief assets are the stock of the Botany Worsted Mills and the Garfield Worsted Mills, both of Garfield, N. J., the latter not now operating. The Botany Worsted Mills is not affected directly by the receivership. The holding company was formed about eight years ago.

Col. Johnson issued the following statement:

"The Botany Worsted Mills will continue operating without change. It is able to meet all its obligations and is definitely in a position to continue the progressive development that it has been experiencing in the recent past, due largely, to the installation of the new automatic looms and other mechanical improvements as well as to the enhancing efficiency in selling and merchandising. The effectiveness of these measures is illustrated by the fact that the production and sales of the Botany Worsted Mills thus far this year are approximately double those of a year ago, this being especially noteworthy in view of the light operations in the textile field as a whole.

"The factory has been working in three shifts since the beginning of this year and is employing about 4,000 workers at present. I see no reason to doubt that this will continue unchanged."

The liabilities of the Botany Consolidated Mills, Inc., are $327,229 and its assets in excess of $18,000,000 as of Feb. 29 last according to the bill of complaint. The assets are said to be represented principally by stock but include cash on hand $115,842, accounts receivable of $209,763, and merchandise comprising finished raw material and in work, $444,988. Liabilities are principally local taxes and bond interest.

A reorganization of the bonded debt and an adjustment of the heavy fixed interest charges, up to this time borne by the Botany Consolidated Mills, Inc., is planned under the protection of the receivership action.

Cannon Profits Larger

The Cannon Mills Co., operating a group of cotton mills in the South, reports for the year ended Dec. 31, 1931, net income of $2,088,917, after depreciation, interest and federal taxes, which compares with net income after similar charges in 1930 of $1,544,638. Net profits in 1929 totaled $4,160,067 and in 1928 $2,452,569. Net sales for 1931 amounted to $21,174,345, as compared with $23,295,002 in 1930. The company's balance sheet at the close of 1931 showed current assets of $20,181,954 and current liabilities of $1,968,222, leaving working capital of $18,213,732, whereas at the end of 1930 surplus of quick assets over liabilities amounted to $18,952,164.

The annual stockholders meeting of the Cannon Mills Co. will be held in the main offices of the company at Kannapolis, N. C., April 12.

Shove Liquidation

Stockholders of Shove Mills, Fall River, Mass., will meet in three weeks to wind up the company's affairs. Three parcels of the company's real estate in Tiverton, R. I., and Fall River were sold March 15 to Myer Markel, Fall River realtor, at liquidating auction for $2,500, a small fraction of assessed valuation of approximately $175,000. John F. Mello, former bookkeeper, bought the remaining parcel, 80 house lots, for $100. Mills 1 and 2 machinery and equipment were sold in December to Textile Machinery & Supply Co. The Shove Textile Co. has been organized by officials of Shove Mills, including Cyrus C. Rounseville, with nominal capital of 100 shares.

Raybestos-Manhattan Report

Raybestos-Manhattan, Inc., Bridgeport, Conn., with its subsidiaries reports total assets of $16,225,354 for the year ending Dec. 31, 1931. The previous year ended with assets amounting to $17,979,325. Earned surpluses were respectively $426,640 and $1,715,445. Current assets were $6,745,367 and current liabilities $349,488 as compared with $8,312,363 and $533,209 the previous year. Cash and marketable securities were $3,164,458 Dec. 31, 1931, as compared with $3,306,135 Dec. 31, 1930.

Financial Brevities

Potomska Mills, New Bedford, Mass., report for the year ended Dec. 31, 1931, net loss after depreciation and other charges of $49,520, which compares with loss of $126,956 in 1930.

Gotham Silk Hosiery Co. has declared a regular quarterly divided of $1.75 per share on the preferred stock, payable May 1 to stock of record April 12.

A dividend of 6% amounting to $22,500 was on March 21, paid to stockholders of Pee Dee Mfg. Co., Rockingham, N. C. The mill in 1931 paid 50% in dividends. These dividends are not from present earnings, but from the surplus created several years ago.

Fuld & Hatch Knitting Co., Cohoes, N. Y., has arranged for a reduction in capitalization from $1,000,000 to $250,000.

The annual financial statement of Canadian Celanese, Ltd., Drummondville, Que., shows net profits for 1931 of $1,260,448, as compared with $1,254,529 for 1930.

Boston Stock Auctions

The following sales of textile shares were made at auction in Boston, March 23:

Shrs.	Mill	Par	Price	Ch'ge
36	Arlington	...	12¾	—¼
20	Boston Woven Hose, com.	...	18	...
100	Naumkeag	100	48	...
156	Total			

New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	45	..
Amoskeag	3½	..	..
Arlington	12¾	10	13
Associated Textile	10	..	10
Bates	10	10	15
Berkshire Associates, com.	1½	1½	3
Berkshire Associates, pfd.	40½	10	12
Bigelow-Sanford, com.	15	..	..
Edwards	80½	40	45
Farr Alpaca	15	14	16
Hamilton Woolen	47½	45	50
Hill	7	2	5
Ludlow	56½	48	50
Merrimack, com.	3½	6	8
Nashua, com.	3½	3	5
Nashua, pfd.	29	15	18
Naumkeag	48	47	50
Newmarket	10	9	12
Otis	45	41	45
Pacific	8	..	..
Pepperell	34½	32	36
Plymouth Cordage	49	48	52
West Point	35	24	..
York	8½	4	..

Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Mar. 29

	High	Low	Last Sale	Net Ch'ge
Adams Millis	27½	26½	27	....
American Woolen	3½	3½	3½	....
American Woolen, pfd.	25½	20½	23½	—1½
Belding-Heminway	3½	3½	3½	—⅛
Botany Mills, A	⅛	⅛	⅛	—⅛
Cannon Mills	20	19½	19½	—⅛
Century Ribbon	5½	4½	4½	—⅛
Collins & Aikman	8½	7½	7½	—⅛
Consolidated Textile	¼	¼	¼	....
Gotham Hosiery	10½	9½	9½	—⅛
Industrial Rayon	33½	28½	28½	—4½
Kayser, Julius	7⅛	7	7⅛	—⅛
Kendall, pfd.	30½	30½	30½	....
Mallinson	⅛	⅛	⅛	....
*May Hosiery, pfd.	18	18	18	—1
Mohawk Carpet	8	7⅞	8	....
Munsingwear	14¼	14¼	14¼	....
Pacific Mills	8½	8	8	—⅛
Phoenix Hosiery	3½	3½	3½	—⅛
Real Silk Hosiery	4½	3½	3½	—⅛
*Tubize	3½	3	3	—⅛
United Piece Dye Works	8½	8½	8½	—1
Van Raalte	7	7	7	....

*Listed on Curb.

Luncheon-Reception to President of U. S. Institute

A LUNCHEON-RECEPTION to be tendered to President Francis P. Garvan by the Board of Directors and members of U. S. Institute at the Biltmore Hotel, New York, Friday, April 29, promises to be the most important and interesting function in the history of the organization. The committee having charge of arrangements consists of H. V. R. Scheel, chairman, William W. Buffum, treasurer of the Chemical Foundation, of which Mr. Garvan is president, and C. H. Clark, secretary of U. S. Institute. It is planned to start the luncheon at 12:30 p.m., and follow it with a speaking program which, other than the principal address by President Garvan, will be confined to brief talks by a number of the industry's leaders and men prominent in industrial research.

The presidents of leading textile organizations will be invited guests of U. S. Institute. Among those who have already promised to attend and speak are Franklin W. Hobbs, chairman of the Textile Foundation and president of the National Association of Wool Manufacturers; George A. Sloan, president of the Cotton-Textile Institute, and Maurice Holland, director, division of engineering and industrial research of the National Research Council. The regular quarterly meeting of the Board of Directors will be held at the same place as the luncheon-reception, convening at 10:30 a.m., and adjourning in ample time for a reception to the president prior to the luncheon.

This luncheon-reception to President Garvan is much more than a private affair of U. S. Institute members, for in accepting the presidency of U. S. Institute Mr. Garvan is giving the whole textile industry the benefit of his experience as an advocate and organizer of scientific research. The textile industry and all other domestic industries dependent for their success upon the existence of an adequately developed chemical industry, had previously owed Mr. Garvan a permanent debt for his work as Alien Property Custodian and as president of the Chemical Foundation in salvaging the domestic chemical industry from foreign monopoly. It is only fair, therefore, that representatives of all the leading textile associations should be accorded the opportunity of joining U. S. Institute members in honoring Mr. Garvan on the occasion of his formal introduction to the latter as their president, for as president of U. S. Institute he is giving his services free of cost to the whole industry for the further organization and promotion of scientific research.

▸ DuPont Sales Staff Convenes at Old Hickory, Tenn.

Du Pont Rayon Co. held a sales meeting at the Old Hickory, Tenn., plant, March 31 to April 2. The meeting was attended by all members of the sales department, representatives of the production and technical departments as well as company executives. F. R. Brown, director of sales, presided.

▸ Silk Trade Again Urged to Fight Design Thefts

An appeal to the silk industry to continue to respect the ownership of print designs, for the protection of the public, for the maintenance of honesty and integrity in business and for the preservation of artistic standards, has been issued by the Silk Association of America, Inc.

"Cooperation of the entire silk trade in re-affirming its opposition to the piracy of original designs is anticipated," Ramsay Peugnet, secretary of the Silk Association stated. "The majority of the trade favor honest practices, and would not willingly stoop to the stealing of another person's property. Furthermore, the trade as a whole endeavors to maintain for the women of the country the high standards in designs which customers expect. The time has come, however, for the trade to re-state its position, and call again on the cooperation of printers and engravers to stand by design protection, as they went on record last summer."

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Mar. 26, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Mar. 26	Total to Date 1932	Total to Date 1931
Domestic	183,000	14,036,000	17,463,000
Foreign	323,000	9,801,000	12,556,000
Total	506,000	23,837,000	30,019,000
IMPORTS AT PRINCIPAL PORTS			
Boston	323,000	9,801,000	12,556,000
Philadelphia	120,000	7,031,000	8,373,000
New York	97,000	8,239,000	12,975,000
Total	540,000	25,071,000	33,904,000

▸ Broadsilk Yardage Sales Fall in February

Yardage sales of broad silks decreased 13.1% during February as compared with the previous month, and decreased 19.2% as compared with February, 1931, the Silk Association of America, Inc., reports. Stocks on Feb. 29 were 3.7% higher than on Jan. 31, and 2.6% lower than on Feb. 28, 1931.

▸ Berkshire to Move N. Y. Office

The New York office of Berkshire Knitting Mills will be moved shortly from 1 Madison Ave., to the Empire State Building, it was announced this week. Larger quarters have been taken. Textile Machine Works, which is affiliated with Berkshire, will also operate from the new address, which will be the sales quarters of both.

▸ Distinctive Styling Could Offset Silk Uncertainty

(*Continued from page 51*)

and retailer are given a thorough airing for the benefit of all parties concerned.

Pointing the way to the restoration of profits in the broadsilk industry is the new plan of production and merchandising adopted by Cheney Brothers. This interesting example of selective distribution and limited production, outlined in an address by E. Kent Mitchel, reported in the Feb. 20 issue of TEXTILE WORLD, has several constructive features, including the following: (1) Emphasis is placed upon quality rather than upon price; (2) The best possible fabric is designed and manufactured to meet a specific retail price point; (3) Initial printings of each design are limited in order to protect the customer against subsequent price competition that usually results when excess stock are sacrificed, and also as a defense against design piracy; and (4) Recommendation that retail outlets restrict the number of colors in plain goods to not more than the number being sold in the ready-to-wear department.

The silk industry needs more adherence to policies such as those adopted by Cheney Brothers. There is need also for greater creative effort in fabric development and patterns, greater emphasis on quality, and more attention to the effective control of production in order that the unfortunate consequences of suicidal price slashing may be avoided.

▸ Philadelphia Dyers Association Makes Progress

Satisfactory progress is reported in the efforts to form an association of the hosiery job dyers in Philadelphia. To date, recent further accessions in the way of members has brought up representation of the trade to approximately 90% of the local dyers in this trade. It is expected that within a short time the representation will be even larger. Plans are being laid for the incorporation of the association, whereupon a permanent organization will be effected in order to maintain the work which has been instituted. Those in touch with the situation report splendid progress already made in maintaining a sound economic and profitable basis of operations.

▸ Says Fashion Needs Impartial Critics

"Since there are recognized critics of painting, sculpture, literature and the stage, why shouldn't there be accredited fashion critics?"" asked Mrs. Edna Woolman Chase, editor-in-chief of *Vogue*, in an address on "This Fashion Business" given under the auspices of the Fashion Group in New York City.

▸ Officers Only Speakers at Hosiery Convention

The program for the 28th annual convention of the National Association of Hosiery and Underwear Manufacturers, at Commercial Museum, Philadelphia, April 14, which was announced Friday, comprises: annual address by William Meyer, president of the association; financial report by Ernest Blood, treasurer, and a short talk by Earl Constantine, recently appointed managing director, on "Making Port in the Storm."

The program makes an unusual departure in that the above addresses by officers will be the only formal talks given. The meeting will elect new officers for the coming year, including four directors to serve for two years. The annual luncheon of the association will follow the meeting.

The convention will be held simultaneously with the 28th annual Knitting Arts Exhibition at the Museum. The association announced that tentative plans are being made for a conference during exhibition week on the moot question of "two-tone" raw silk, which has caused much complaint among manufacturers.

The revised nominating committee follows: G. C. Good, Globe Knitting Works, Grand Rapids, Mich., chairman; J. E. Millis, Adams-Millis Corp., High Point, N. C.; R. W. Sulloway, Sulloway Mills, Franklin, N. H.; W. H. Gosch, Nolde & Horst Co., Reading, Pa., and C. V. Williams, Federal Knitting Co., Inc., Philadelphia, Pa.

▸ Raymond C. Kramer Heads Belding Heminway

Election of officers of Belding Heminway Co., Wednesday, resulted in the selection of Raymond C. Kramer, associate director of Amos Parrish & Co., as president, succeeding Dennis P. Carey, who resigned last winter to be chairman of the new managing committee at Cheney Bros.

John Nash McCullaugh, general manager of the Berkshire Knitting Mills, and chairman of the board of L. & E. Stirn, was elected chairman of the directorate, and Paolino Gerli, vice-president and general manager of E. Gerli & Co., Inc., and president of the Silk Association of America, Inc., was named chairman of the executive committee.

▸ Strike at United M. & M. Plant at Langley

More than 400 operatives at the Langley (S. C.) plant of United Merchants & Manufacturers, Inc., are on strike in protest against wage reductions. The walkout occurred March 28, and later it was announced that action of the workers had been sanctioned by the American Federation of Labor, and plans were made to set up relief headquarters. Striking employees claimed that they had received five wage cuts in the last year and a half. The management would make no statement concerning the cause of the strike. Other plants of the company at Clearwater and Bath, S. C., were operating as usual, although it was reported that workers in those mills were members of the union and might be called upon to strike.

▸ Marketing Corp. Sells Mohair for Carpet at 7c.

The recent special sale of about 5,000,000 lb. of Texas mohair by the National Wool Marketing Corp. to carpet mills, to be used solely for carpet making purposes, represents according to an official of the corporation, an effort on the part of this wool grower's cooperative organization to relieve the mohair market from the heavy surplus which has been destroying confidence in the minds of regular consumers of mohair.

During the last two years demand from the automobile and furniture industries, which normally use millions of yards of mohair fabrics, has fallen off with the result that stocks from two seasons have accumulated until at the present time it is estimated that about 20,000,000 lb. of the raw material remain unsold in the hands of growers and dealers.

In a letter explaining the reason for the sale, addressed to Speaker John N. Garner of the House of Representatives, Joseph P. Draper of Draper & Co., Boston sales agents of the cooperative, pointed out that the plan met with the approval of some of the large mohair manufacturers, and that he believed "these sales can have no collateral harmful effect upon any American producer or merchant," because the only material displaced is carpet wool all of which is imported.

While details of the sale were not officially given out Boston wool dealers are under the impression that more than one carpet mill was involved, and that the selling price was around 6 to 8c. per pound or about the same level at which South American B.A. 6s, used extensively by carpet manufacturers, are now quoted. Original growers were advanced two or three times this sale price when the cooperative acquired the mohair.

▸ Chicago Yarn Men's Golf Set for June 22-23

The Chicago Yarn Men's Circle announces that its eleventh annual golf tournament will be held June 22 and 23 at Nippersink Lodge, Genoa City, Wis. Guests will be glad to learn that Nippersink has been secured again as the tournaments for the last three years have proven it an ideal spot. New officers of the Circle are as follows: Frank W. Kingsley, Hampton Co., president; W. D. Emerson, Viscose Co., secretary, and W. R. Rietheimer, Boger & Crawford, treasurer.

Business News

B. W. Dow Joins Bartlett Organization

Benjamin W. Dow, industrial engineer, has become associated with Raymond S. Bartlett & Associates, Boston, Mass., consulting textile engineers.

Frank R. Wheeler Joins Worthington

Worthington Pump & Machinery Corp. has appointed Frank R. Wheeler special sales representative with headquarters at the Chicago Office. He will cover the mid-west territory, assisting the Worthington organizations in Chicago, St. Paul, Kansas City, St. Louis and Detroit.

Torrence Elected President of Link-Belt Co.

At the 58th annual meeting of the stockholders on Mar. 22, George Paull Torrence, vice-president in charge of the company's Indianapolis operations, was elected president of Link-Belt Co., manufacturers of conveying and power transmitting machinery, with headquarters at the executive offices in Chicago.

New Reliance Representatives In Atlanta

The Reliance Electric & Engineering Co., Cleveland, Ohio, manufacturers of alternating and direct-current motors, have established a sales branch at 703 Bona Allen Bldg., Atlanta, Ga., in charge of Marshall Whitman and George Gardner. The territory covered from this point will be North and South Carolina and Georgia.

Lukenweld Advances Wilbraham

William S. Wilbraham, who has been in charge of the estimating and order department at Lukenweld, Inc., Coatesville, Pa., since this organization was established in 1929 to manufacture welded parts for machinery and equipment, has been appointed assistant manager of sales, and will work directly with Henry H. Peck, manager of sales for Lukenweld, Inc.

Stibloy Produced by New Koppers Controlled Company

The Stibloy Products Co., Inc., with principal offices in the Koppers Building, Pittsburgh, has taken over the assets of Liquid Metal Products, Inc., Chicago, producers and distributors, under the Arent patents, of Stibloy, a metal compound in liquid form, which acts as a primary coating to hold paint, enamel and lacquer tenaciously, permitting immediate finishing of new galvanized metal surfaces.

L. V. Quigley Opens Office as Counsel on Public Relations

Leon V. Quigley has established his own business as counsel on public relations, at 730 Fifth Avenue, New York. During the last seven years, as technical editor of the Bakelite Corp., Mr. Quigley has been director of public relations, publicity, and the educational program of that company.

QUOTATIONS

at close of business, March 30, 1932
Prices cover average qualities unless otherwise stated

Cotton Goods

	Mar. 30	Mar. 23	April 1 1931
PRINT CLOTHS			
27 -in., 64x60, 7.60	2¼c.	2¼c.	3¼–4c
38½-in., 64x60, 5.35	3¼–3¼c.	3 11/16–3¾	5½–5½c
39 -in., 68x72, 4.75	4¼c.	4¼c.	6½–6¼c
39 -in., 72x76, 4.25	5¼c.	5¼	7½–7½c
39 -in., 80x80, 4.00	5¼c.	5¼c.	7½–7½c
BROWN SHEETINGS			
36-in., 56x60, 4.00	4½c.	4¼–4¼c.	5¾c.
36-in., 48x48, 3.00	4¾c.	4¼c.	6½c.
37-in., 48x48, 4.00	4¼c.	4¼c.	5½c.
PAJAMA CHECKS			
6½-in., 72x80, 4.70	4¼–4¼c.	4¼–4¼c.	6¼c.
6 -in., 64x60, 5.75	4–4¼c.	4–4¼c.	5½–5¼c
MISCELLANEOUS			
Drills, 37-in., 3 yd.	4½c.	5c.	6¼c.
Denims, 2.20	9½c.	9½c.	12 c.
Tickings, 8 oz.	12 c.	12 c.	15½c.
Standard prints	6¼c.	6¼c.	7¼c.
Eastern staple ginghams, 27-in.	6 c	6 c.	8 c.

Cotton Waste

Peeler comber	6 – 6½
Peeler stripe	5 – 5½
Sak. comber	4½ – 5
Choice willowed fly	2½ – 3½
Choice willowed picker	2 – 3
Sak stripe	7 – 7½
Linters (mill run)	2 – 2½
White spooler (single)	4½ – 4¾

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.12*	22s	$0.15½
10s	– .12½	24s	– .16½
12s	– .13	26s	– .17½
16s	– .14	30s	– .18½
20s	– .15	40s ex qual	– .26½

TWO-PLY SKEINS AND TUBES

8s-2	$0.12½	26s-2	$0.17½– .18
10s-2	– .13	30s-2	18½– .19½
12s-2	– .13½	36s-2	– .24½
14s-2	– .14	40s-2	– .25½
16s-2	– .14½	49s-hi.brk	– .26½
20s-2	15 – .15½	50s-2	– .32½
24s-2	16½– .17	6ps-2	– .35½

SINGLE WARPS

10s	$0.12½	24s	$0.16½
12s	– .13	26s	– .17½
14s	– .13½	30s	– .19
16s	– .14	40s ex. qual	– .26½
20s	– .15		

TWO-PLY WARPS

8s-2	$0.12½	24s-2	$0.17 – .17½
10s-2	– .13	26s-2	18 – .18½
12s-2	– .13½	30s-2	19 – .19½
14s-2	– .14	49s-2 ordin.	– .25½
16s-2	– .14½	50s-2	– .32½
20s-2	15– .15½	60s-2	– .35½

8s-3 and 4-ply skeins and tubes; tinged, 11; white, 12; waste, 10½

HOSIERY CONES (Frame Spun)

8s	$0.12½	22s	$0.15½– .16
10s	– .12½	24s	– .16½
12s	– .13	26s	– .17½
14s	– .13½	30s tying	18 – .18½
16s	– .14	30s reg	19 – .19½
18s	– .14½	30s ex. qual.	20 – .20½
20s	15 – .15½	40s	– .25½

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25	60s-2	$0.39 – .40
30s-2	.27 – .23	70s-2	.50 – .52
36s-2	.29 – .30	80s-2	.60 – .63
40s-2	.30 – .31	90s-2	.85 – 87
50s-2	.33 – .35	100s-2	.98 –1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.25	60s-2	$0.40 –0.41
30s-2	.28 – .29	70s-2	.50 – .52
36s-2	.30 – .31	80s-2	.60 – .62
40s-2	.31 – .32	90s-2	.85 – .90
50s-2	.35 – .36	100s-2	.95 –1.02

SINGLES

12s	$0.18½–0.19½	30s	$0.26 –0.27
14s	19 – .20	38s	.29 – .30
16s	.19½ – .20½	40s	.30 – .31
18s	.20 – .21	50s	.33 – .34
20s	.21 – .22	60s	.39 – .40
24s	.23 – .24	70s	.50 – .51
28s	.25 – .26	80s	.60 – .61

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.42 –0.44	90s-2	$0.95
30s-2	.43 – .45	100s-2	1.20–1.25
36s-2	.45	120s-2	1.55–1.60
40s-2	.47	30s	.49– .51
45s-2	.48	40s	.54– .56
50s-2	.50 – .52	50s	.60– .62
60s-2	.55 – .57	60s	.65– .68
70s-2	.69	70s	.77– .80
80s-2	.79	80s	.92– .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA
(Fluctuations of Futures)

	Closed Mar. 24	For Week High	For Week Low	Closed Mar. 30	Net Ch'ge
April	6.44	6.44	6.07	6.26	—0.18
May	6.51	6.56	6.11	6.33	—0.18
June	6.58	6.58	6.21	6.40	—0.18
July	6.67	6.73	6.28	6.50	—0.17
August	6.73	6.73	6.38	6.57	—0.16
September	6.80	6.80	6.45	6.64	—0.16
October	6.88	6.94	6.50	6.72	—0.16
November	6.94	6.94	6.59	6.80	—0.14
December	7.03	7.09	6.65	6.89	—0.14
January	7.12	7.17	6.74	6.99	—0.13
February	....	6.88	6.83	7.04	.....
March	....	7.00	6.90	7.11	.....

SPOT FLUCTUATIONS FOR WEEK

	(Middling) New York	New Orleans	Liverpool
Thursday, March 24	6.60	6.52	5.15
Friday, March 25	Holiday	Holiday	Holiday
Saturday, March 26	Holiday	Holiday	Holiday
Monday, March 28	6.30	6.24	Holiday
Tuesday, March 29	6.20	6.16	4.95
Wednesday, March 30	6.40	6.33	4.94

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Mar. 28.		Change
May. Sak	12.15	—0.50
Apr. Uppers	10.03	—0.56
Apr.-May Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak (No. 38)		13.00
Fully good fair to good Uppers (No. 10)		10.75

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	16½
Peruvian Pima No. 1	16
Peruvian Moderate Rough	11
Peruvian Full Rough	17
China Tientsin No. 1	9½
India Rough	7 to10
India Smooth	6½ to 7½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year
Week	201,000	136,000
Season	13,425,000	12,109,000

WORLD VISIBLE SUPPLY

	Mar. 25	One Year Ago
Interior towns and ports of U.S.*	6,266,000	5,102,000
Afloat to and at ports of Europe	1,529,000	1,901,000
Afloat to and at ports of Orient	1,182,000	464 000
Total	8,977,000	7,467,000
	Decrease	Decrease
Change during week	48,000	61,000

*Includes afloat to New York.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U.S.	22.000	612.000	20.000	647,000
So. States, U.S.	90.000	3,419,000	72,000	2,930,000
Total U.S.	112.000	4.031,000	92,000	3,577.000
Great Britain	26.000	874.000	22.000	618,000
Continent	62.000	2,377.000	75.000	2,413.000
Orient	46.000	2.202.000	4,000	910.000
Canada and other America	3.000	131.000	4.000	161.000
Total foreign countries	137.000	5,584.000	105.000	4,102.000
World total	249,000	9,615,000	197,000	7,679.000

EXPORTS FROM UNITED STATES

Total	174,000	6,664,000	104,000	5,493,000

AVERAGE PRICE APR.-MAY. SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in	8¾–9c.	9¼–9½c.
1⅛-in	9⅛–9½c.	9½–10c.
1 3/16-in	10¼–10½c.	10¾–11c.
1¼-in	12½–13½c.	13½–14½c.

Based on New York, May, 6.13.

SPOT FLUCTUATIONS AND STOCKS

Markets	Mar. 23	Mar. 30	Sales	This Week	Last Year
Galveston	6.50	6.35	3.325	776,109	560,313
New Orleans	6.48	6.33	4,174	1,060,305	772,532
Mobile	6.25	6.10	2,572	205,714	242,638
Savannah	6.36	6.23	1,375	261,643	361,788
Norfolk	6.50	6.35	557	62,803	86,586
New York	6.55	6.40	1 600	206,238	227,910
Augusta	6.50	6.31	1,019	122,862	95,706
Memphis	5.85	5.70	14,769	407,440	279 031
St. Louis	6.15	5.70	.....	.....	9,935
Houston	6.40	6.30	6,986	1,452,332	1,207,557
Dallas	6.05	5.90	6,894	27,654	13,210

DIFFERENCES ON AND OFF MIDDLING WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.50†	.75†	0.65†	0.63†	0.64†
S.G.M	.40†	.50†	.55†	.56†	.51†
G.M	.30†	.40†	.40†	.38†	.37†
S.M	.20†	.25†	.25†	.19†	.22†
S.L.M	.20*	.20*	.25*	.19*	.22*
L.M	.40*	.50*	.50*	.50*	.48*
S.G.O.**	.75*	.75*	.85*	.88*	.80*
G.O	1.00*	1.00*	1.15*	1.25*	1.09*
YELLOW TINGED					
G.M	0.25*	0.25*	0.25*	0.25*	0.26*
S.M	.35*	.40*	.35*	.38*	.39*
M.**	.50*	.50*	.50*	.50*	.52*
S.L.M	.90*	.90*	.85*	.75*	.88*
L.M	1.25*	1.25*	1.15*	1.13*	1.24*
YELLOW STAINED					
G.M	0.50*	0.55*	0.50*	0.50*	0.50*
S.M.**	.90*	.90*	.85*	.88*	.87*
M.**	1.25*	1.15*	1.15*	1.25*	1.22*
BLUE STAINED					
G.M.**	0.65*	0.60*	0.50*	0.63*	0.58*
S.M.**	1.00*	.80*	.85*	1.00*	.91*
M.**	1.25*	.90*	1.15*	1.25*	1.18*

**Grades not deliverable on contract.
*Off Middling † On Middling

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA
(IN GREASE)

Fine delne.	$0.20 – $0.21	¼ blood	$0.20 – 0.21
Fine clthg.	.17 – .18	¼ blood	.19 – .20
½ blood	.21 – .22		

TEXAS AND CALIFORNIA
(CLEAN BASIS)

Texas, 12 months	$0.51 – 0.53
California, Northern	.42 – .44

PULLED—EASTERN (CLEAN BASIS)

A-A	$0.53 – $0.55	B-Super	$0.42 – 0.45
A-Super	.47 – .49	C-Super	.37 – .39

MONTANA, IDAHO AND WYOMING
(CLEAN BASIS)

Staple fine	$0.52 – 0.54
Staple ½ bld.	.50 – .52
Fine and fine medium	.49 – .51
⅝ blood	.45 – .48
½ blood	.37 – .39

MOHAIR—DOMESTIC

Best carding	$0.21 – 0.23
Best combing	.27 – .30

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING
(CLEAN BASIS IN BOND)

Australia:	
70s	$0.38 – 0.40
64s	.30 – .32
58s-60s	.28 – .30
(IN GREASE)	
Montevideo:	
58s-60s	$0.17 – 0.18
56s	.16 – .17
50s	.15 – .16
Buenos Aires:	
4s, 40-44s	$0.10 – 0.11
5s, 36-40s	.09 – .10

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.19 – 0.20
China: Combing No. 1	.12 – .13
China Filling Fleece	.11 – .12
Szechuen ass't	.12 – .13
Cordova	.09 – .10
Scotch black face (nominal)	.14 – .16
East India: Kandahar	.15 – .16
Vican'r	.19 – .20
Joria	.19 – .20

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.70 – .72½
2-24s 40s	– .80
2-26s 44s	.80 – .82½
2-28s 46s	.85 – .87½
2-30s 48s	.90 – .92½
2-32s 50s	.92½ – .95
2-30s 64s fancy mixes	1.20 – 1.22½
(Single yarns 5c. less than above)	
2-36s 58s	1.00 – 1.02½
2-40s, 60s	1.12½ – 1.17½
2-40s, 64s	1.15 – 1.20
2-50s, 66s	1.30 – 1.35
2-60s, 70s	1.65 – 1.70

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.65
2-20s, 48s in oil	.70
2-20s, 50s in oil	.72½
2-20s, 56s in oil	.82½ – .85
2-20s, 60s in oil	.95 – .97½
2-20s, 64s in oil	1.10 – 1.12½
1-18s, 48s dyed	.85 – .87½
1-18s, 50s dyed	.90 – .92½
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	.90 – .95
1-20s, 60s	1.02½ – 1.05
1-18s, 64s, dyed	1.25 – 1.27½
1-26s, 64s	1.02½ – 1.05
1-30s, 64s, Warp	1.10 – 1.12½
2-30s, 64s, Fancy mixes	1.27½ – 1.32½
2-40s, 64s, Zephyrs	1.25 – 1.27½
1-50s, 66s	1.35 – 1.37½
2-50s, 66s	1.45 – 1.47½
2-60s, 70s domestic	1.80 – 1.85
1-60s, 70s, Australian	1.60 – 1.70
2-60s, 70s, Australian	1.77½ – 1.87½

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	.90 – .92½
1-40s, 50-50-60s on cops	1.00 – 1.02½
1-40s, 50-50-64s on cops	1.02½ – 1.05
1-40s, 50-50-64s Australian cops	1.10 – 1.15

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Mar. 23	For Week High	For Week Low	Closed Mar. 29	Net Ch'ge
March	65.00	....	....	....	....
April	65.00	65.00	62.00	62.00	—3.00
May	65.30	65.30	63.00	63.00	—2.30
June	65.30	65.30	63.00	63.00	—2.30
July	65.30	65.30	63.00	63.00	—2.30
August	65.30	65.30	63.20	63.20	—2.10
September	65.50	65.50	63.20	63.20	—2.30
October	65.70	65.70	63.50	63.50	—2.20
November	65.70	65.70	63.50	63.50	—2.20
December	65.70	65.80	63.50	63.50	—2.20
January	66.00	66.00	63.50	63.50	—2.30
February	66.00	66.00	63.50	63.50	—2.30

Tops and Noils

TOPS—BOSTON

Fine (64s-66s)	$0.75 – 0.76
Half-blood (60-62s)	.70 – .72
High ¾ blood (58s)	.64 – .66
Aver. ¾ blood (56s)	.60 – .62
Low ¾ blood	.56 – .58
High ¼ blood (50s)	.50 – .52
46s S. A. and N. Z.	.53 – .55
44s S. A. and N. Z.	.49 – .51
40s S. A. and N. Z.	.45 – .47

TOPS — BRADFORD, ENG. (Mar. 25)

Fine (70s)	24 d	¾ bld. (56s)	16½d
Fine (64s)	22½d	½ bld. (50s)	12 d
½ bld. (60s)	21 d	Cross-bred (46s)	9 d

NOILS — BOSTON

Fine	$0.37 – $0.39	High ¼ bld.	$0.26 – $0.28
Half-bld.	.32 – .35	Low noils	.20 – .23
Aver. ¾ bld.	.28 – .30	Medium colored	.18 – .20
Fine colored	.23 – .28		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.60 – .62
Lap, fine colored	.40 – .43
Hard ends, fine white	.42 – .44
Hard ends, ¼ blood white	.28 – .31
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.23 – .25
Burr, fine carbonized	.24 – .26

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.04½ – 0.05
Merinos, fine dark	.02½ – .03
Merinos, fine light	.09 – .10
Serges, blue	.04½ – .05
Serges, black	.04½ – .05½
Serges, red	.07½ – .08
Knit, white	.21 – .22
Knit, red	.08 – .08½
Knit, light hoods	.08½ – .09½
Worsted, light	.03½ – .04
Worsted, blue	.05 – .05½
Worsted, black	.05½ – .06

Silk Yarns

THROWN SILK (60 day basis)
Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk 85%	$2.85
Japan organzine, 2 thd. grand sk. 83%	2.75
Japan organzine, 2 thd. sp. crack. sk. 81%	2.65
Japan crepe, 3 thd. gd. XX bob. 83%	2.50
Japan crepe, 3 thd. sp. crack. bob. 81%	2.40
Japan grenadine, 4 thd. sp. grand singles, 87%	3.70
Japan grenadine, 3 thd. 90%	4.70
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.20
Hosiery tram, 3 thd. Japan 90%	3.50
Hosiery tram 5 thd, Japan, 85%	2.60
Hosiery tram, crack XX 78%	2.25

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.35
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)
Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$1.95	$1.70	$1.75
Special Grand, 85%	1.85	1.60	1.65
Grand XX, 83%	1.70	1.55	1.60
Special Crack, 81%	1.65	1.50	1.55
Crack XX, 78%	1.55	1.45	1.50
Extra Extra, 73%	1.50	....	....
Best Extra, 68%	1.40	....	....

Canton filature, new style, 14/16	$1.35
Canton filature, new style, 20/22	1.25
Tussah filature, 8 cocoon	.95

NATIONAL RAW SILK EXCHANAE

	Close Mar. 23	For the Week High	For the Week Low	Close Mar. 29	Net Ch'ge
March	1.40	1.44	1.40	....	....
April	1.41	1.46	1.38	1.46	+0.05
May	1.42	1.46	1.37	1.46	+0.04
June	1.43	1.47	1.43	1.47	+0.04
July	1.44	1.46	1.40	1.46	+0.02
August	1.44	1.49	1.39	1.47	+0.03
September	1.45	1.50	1.41	1.47	+0.02
October	1.45	1.50	1.41	1.47	+0.02
November	....	1.48	1.43	1.48	....

Total number of bales, 2,220. Total approximate value, $457,653. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	....
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	.85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13 – $0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06 – .07
Colored thread waste	.03 – .04
Colored clips	.03 – .04

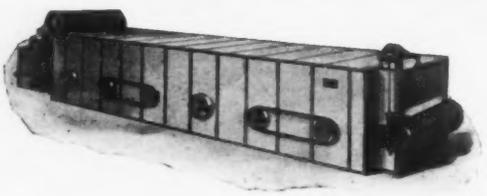
CONVERTED RAYON WASTE*

Bleached tops	$0.30 – $0.32½
Unbleached tops	.27 – .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10 – .11

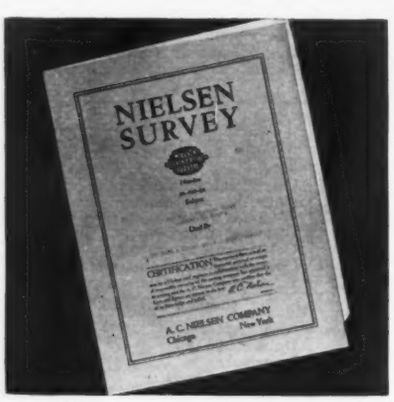
Silk Waste

Kibizzo Kakai Grand XX	0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

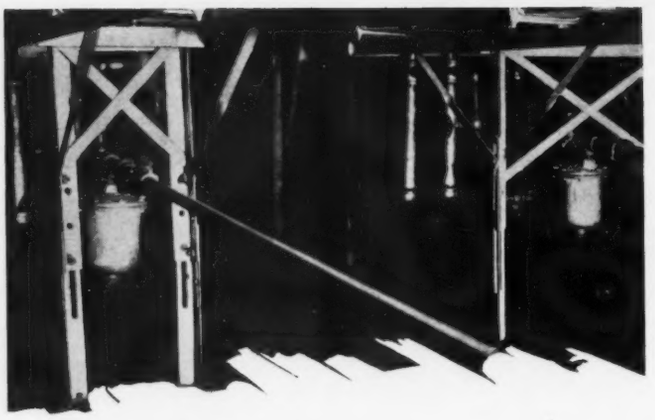
CERTIFIED FACTS SHOW SAVINGS IN STOCK DRYING BY NEW PROCTOR DRYER



Engineers of the A. C. Nielsen Company, Chicago, independent investigators, have made surveys of typical installations of the New Proctor Super Dryer for wool stock, cotton, rags, etc. These unbiased engineers have uncovered facts on these installations that show all details of operation and cost . . . and issued reports which have been certified by executives of the plants concerned. Survey 684 shows how a new wool dryer gives 5 times the capacity of an old dryer, in 2¼ times the floor space . . . and saves $15,000.00 a year in operating cost and dropping loss. Survey 600 shows how 2 cotton dryers with squeeze rolls save 60% in floor space and $4.27 per M lbs. cotton, or $17,613.00 yearly. Survey 640 shows how a rag carbonizing unit saves $666.40 a year. Survey 699 shows the economy of redrying cotton linters with the Proctor Super Dryer. We'll gladly send you copies of these reports . . . also Bulletin No. 66 which shows, in the new design, how this dryer makes such startling savings over older type dryers.



PROCTOR & SCHWARTZ, INC
PHILADELPHIA



For dependable steam trapping, always the ARMSTRONG

THE Armstrong trap originated the inverted bucket principle and thereby greatly increased the standard of dependability in this class of equipment. As a result, thousands of Armstrong traps have been installed in textile mills and other industrial plants. Many of them have operated for years with no attention whatever.

The new valve mechanism in Armstrong traps is the biggest improvement since the inverted bucket. Again the standard of dependability has been increased. With no fixed pivots, only two moving parts, and heat treated valve and seat there is practically no wear possible in the new Armstrong trap. It cannot airbind and is self-scrubbing. There is nothing to prevent such a trap from giving years of trouble-free service.

The new Armstrong trap valve mechanism is pictured above. Note the extreme simplicity, the ease of assembly and inspection, the rugged long-lived construction.

There is an Armstrong size and type for every application. Ask for our bulletin on this new line or let us send as many traps as you need for 90 days free trial.

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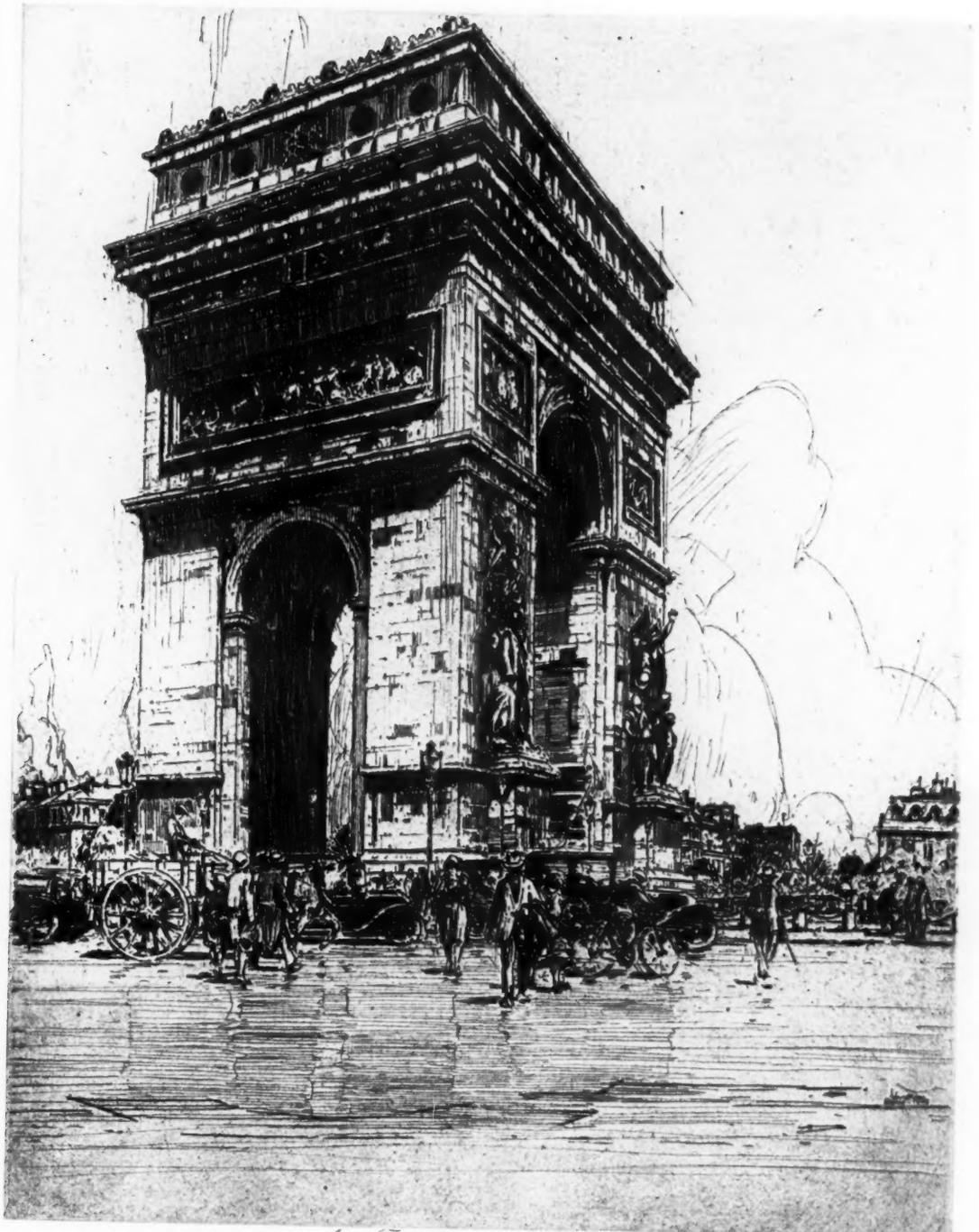
TW4-2Gray



Arc de Triomphe de L'Etoile by Vendreus

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